The Journal of Educational Method

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EDITORIALLY SPEAKING

THE SECOND YEAR

The Journal of Educational Method enters on its second year with a constructive program. It will seek to unify and further the efforts of all who are directly concerned with the improvement of teaching. Such persons fall into several classes. There are those who are engaged in preparing teachers to enter upon the profession; those who receive beginners into their schools and there continue the training; classroom teachers who are already in the work and others who seek to coördinate the teachers' efforts and lead them on to higher and better achievements; some who coöperate with the leaders — leaders of leaders — and, finally, those who investigate the problems involved and serve as disseminators of experience, that the best practices of the few may become the common knowledge of all.

Students, teachers, principals, supervisors, and college instructors are all invited to find their common center of interest in the processes by which children grow and in the conditions most favorable to their growth. Not so much the interests that separate us into distinct and sometimes warring camps as those which we have in common and which bring us together are the interests which this Journal seeks to represent. Teacher and supervisor have a common task, the education of the immature, and they need to take council together. So far as the printed page may aid in this, the Journal will be found an ever eager helper. Its pages are intended for *both* teachers and supervisors, and its best service will be rendered when those pages are read and discussed by the two together.

Supervisors need light both on the problems of teaching and those of supervisory direction and leadership. The needs of teachers are also two-fold, those pertaining to their classrooms and those growing out of their relations to supervisors. *Teachers should be better informed as to the necessity of supervision, its ideals, and its technique.* They will coöperate better when they more fully understand and appreciate the game. Team play depends on knowing the signals as well as on loyalty and devotion. When teachers realize how much good supervision can do toward the improvement of education, to say nothing of greater satisfaction to themselves, they will welcome it even more heartily than they do now.

All of which points clearly to the importance of an adequate national clearing house of experience and an organ of *opinion* to be *shared* by teachers, supervisors, and investigators together. The National Conference with its Journal gives promise of supplying this need and deserves, therefore, cordial support from all those who are working toward the ends which it has set up. If this means you, dear reader, neglect not to do your part.

THE INSTITUTE AS A MEANS OF COÖPERATIVE SUPERVISION

MABEL E. SIMPSON

Director of Elementary Education, Rochester, New York

THE INSTITUTE—ONE AGENCY OF SUPERVISION

To the supervisor interested primarily in the improvement of teaching, the time honored term "Institute" may be one of real significance as an instrument through which help and encouragement may be rendered to teachers. One needs to go back to the delightful educational journals published by Henry Barnard in 1839 to realize that his vision for the improvement of teaching, as indicated by the early institutes in Connecticut, differed very little from the fundamental principles which modern educators are employing.

The original purpose of the early Institutes, as stated by Barnard himself, was threefold:

1. To provide an opportunity for review of the common subjects.
2. To give acquaintance with successful methods of teaching and school management.
3. To stimulate teachers to self-improvement.

In general these purposes are recognized today as fundamental regardless of the form of organization with which the term "Institute" may be associated. That it has proved to be a valuable medium through which these ideals may be realized, is evidenced by the fact that forty-four states of the Union are using some form of institute at the present time.

THE STATUS OF PRESENT-DAY INSTITUTES

For a considerable length of time the Institute has been regarded as an excellent opportunity for educational experts to discuss practical educational and social problems. Stimulating and broadening as these lectures and discussions often are, they seldom deal with matters so closely related to the teacher and her actual work with children that they give her a new vision and a real determination to try a different method of procedure. The outstanding criticism of much of the Institute work being done at the present time is its failure to function in practical results in the classroom.

If the formal Institute program gives the teacher little in the way of meeting the practical problems of the classroom, wherein lies the difficulty and along what lines should we endeavor to make improvements? One reason why the Institute has not been more beneficial

to teachers is because teachers themselves have had very little to do with the selection of problems to be discussed or any direct participation in the program itself.

A STANDARD TO BE ATTAINED IN THE LOCAL INSTITUTE

Modern educational theory is based on the principle *of learning to do by doing.* This applies to the development of teachers as well as children. As individuals, we grow in proportion to the extent to which we participate in the activities being carried on around us. To the same degree, the teacher grows professionally according to the extent of her participation in those attempts made to place before teachers the best theories and practices of the profession. To this end, I believe that the Institute should be employed in a local school system for the purpose of:

1. Considering local educational problems and the standardization of results.
2. Developing local teacher initiative.

The following discussion outlines in considerable detail one way of attempting to make the Institute serve the functions just stated.

AN ATTEMPT TO ATTAIN THESE STANDARDS

For several years it has been the practice in our school system to open the school year with a series of meetings for all teachers in the elementary grades. Three and one-half days are spent by the teachers in attendance upon these meetings. Until recently the major portion of the time was given to instruction and explanation of problems pertaining to the special subjects, such as music, drawing, penmanship, and the like. The fundamental subjects were given merely a general consideration. The plan put into operation in September, 1922, is the result of a gradual shifting of emphasis during the past three years. The printed schedule accompanying this article indicates the extent to which this change in emphasis has been effected.

Early in the spring of 1922 each principal was asked to report any suggestions made by his teachers concerning changes and improvements desired in the program for the Fall Institute. The spirit in which the teachers responded to this request indicated their willingness to coöperate and emphasized their desire for help. The data submitted by the principals contained many valuable suggestions. Many hours then were spent by the members of my department in elaborating and changing the plan followed in 1921. The result was practically an entirely different plan of procedure.

Before the details of the plan were fully developed, the general features were discussed with the principals. It met with such general approval that it seemed worth while to perfect the details and put the plan into operation in September.

PRINCIPAL FEATURES OF THE INSTITUTE SCHEDULE

By referring to the schedule the following points may be noted:

1. The program is divided into sections. Each grade has two sections. Each teacher will report to the section where her particular grade of work is scheduled.
2. The Institute opens with a Faculty meeting

Grade Institutes—Kindergartens and Grades I-VI. Rochester, N. Y., September 6-9, 1922

DAY	HOUR	KINDERGARTEN	FIRST B GRADE	FIRST A GRADE	SECOND B GRADE	SECOND A GRADE	THIRD B GRADE	THIRD A GRADE	FOURTH B GRADE	FOURTH A GRADE	FIFTH B GRADE	FIFTH A GRADE	SIXTH B GRADE	SIXTH A GRADE
Wednesday	1:15-2:00	**Kindergarten Association** M. Fairchild City Normal Kindergarten	**Drawing** H. E. Lowe City Normal Music Room	**Drawing** H. E. Lowe City Normal Music Room	**Health Education** H. J. Norton City Normal Assembly	**Health Education** H. J. Norton City Normal Assembly	**Music** C. H. Miller City Normal Gymnasium	**Music** C. H. Miller City Normal Gymnasium	**Penmanship** E. C. Mills City Normal Drawing Room	**Penmanship** E. C. Mills City Normal Drawing Room	**Domestic Art** M. A. MacCormack City Normal Library	**Domestic Art** M. A. MacCormack City Normal Library		
	2:10-2:55								**Music** C. H. Miller City Normal Gymnasium	**Penmanship** E. C. Mills City Normal Drawing Room	**Penmanship** E. C. Mills City Normal Drawing Room	**Penmanship** E. C. Mills City Normal Drawing Room	**Drawing** H. E. Lowe City Normal Music Room	**Drawing** H. E. Lowe City Normal Music Room
	3:15-4:00								**Drawing** H. E. Lowe City Normal Music Room	**Drawing** H. E. Lowe City Normal Music Room	**Music** C. H. Miller City Normal Gymnasium	**Music** C. H. Miller City Normal Gymnasium	**Health Education** H. J. Norton City Normal Assembly	**Health Education** H. J. Norton City Normal Assembly
Thursday	9:00-9:45	**Language** Course of Study M. E. Simpson No. 12 Assembly	**Language** Course of Study M. E. Simpson No. 12 Assembly	**Language** Course of Study M. E. Simpson No. 12 Assembly	**Language Demonstration** M. Ward Chairman, M. Vanloger No. 2 Kindergarten	**Language Demonstration** M. Ward Chairman, N. Holmes No. 2 Assembly	**Language Demonstration** J. B. Day Chairman, N. O. West No. 31 Kindergarten	**Language Demonstration** M. D. Rebeca Chairman, G. A. McNeil No. 31 Assembly	**English Demonstration** H. G. Thomas Chairman, M. E. Brown No. 9 Kindergarten	**English Demonstration** M. Yale Chairman, C. A. Casey No. 9 Assembly	**English Demonstration** A. B. Curtis Chairman, F. DeMotherbird City Normal Music Room	**English Demonstration** H. B. Card Chairman, L. D. Wilkinson City Normal Drawing Room	**English Demonstration** L. Rausch Chairman, E. M. O'Rorke City Normal Assembly	**English Demonstration** G. Leichliter Chairman, G. Paine City Normal Library
	9:55-10:40	**Phonetics Demon. Phonetics Course Reading Chart** C. Nichols Chairman, H. Hollman No. 12 Assembly	**Phonetics Demon. Phonetics Course Reading Chart** C. Nichols Chairman, H. Hollman No. 12 Assembly	**Phonetics Demon. Phonetics Course Reading Chart** C. Nichols Chairman, H. Hollman No. 12 Assembly	**Phonetics Demon. Phonetics Course Reading Chart** M. Orr Chairman, S. H. Peek No. 2 Assembly	**Phonetics Demon. Phonetics Course Reading Chart** M. Orr Chairman, S. H. Peek No. 2 Assembly	**Phonetics Demon. Phonetics Course Reading Chart** M. McFarrel Chairman, D. Lorteler No. 31 Assembly	**Phonetics Demon. Phonetics Course Reading Chart** M. McFarrel Chairman, D. Lorteler No. 31 Assembly	**Reading Chart Library Lists** E. H. MacLachlan No. 9 Assembly	**Reading Chart Library Lists** E. H. MacLachlan No. 9 Assembly	**Spelling Demon. Reading Chart** A. L. Burtis Chairman, M. Way City Normal Music Room	**Spelling Demon. Reading Chart** L. Moore Chairman, W. E. Hawley City Normal Drawing Room	**Spelling Demon. Reading Chart** L. Moore Chairman, G. D. Taylor City Normal Assembly	**Spelling Demon. Reading Chart** S. B. Palmer Chairman, R. A. Weeks City Normal Library
	10:50-11:35	**Reading Demonstration** M. Byrn Chairman, C. D. Taylor No. 12 Assembly	**Reading Demonstration** M. Byrn Chairman, C. D. Taylor No. 12 Assembly	**Reading Demonstration** C. Livingstone Chairman, M. Golden No. 13 Kindergarten	**Reading Demonstration** C. M. Roberts Chairman, E. Ward No. 2 Kindergarten	**Reading Demonstration** A. Fitzgerald Chairman, H. D. Snell No. 2 Assembly	**Reading Demonstration** C. Johnson Chairman, A. Tyrwehrg No. 31 Kindergarten	**Reading Demonstration** M. D. Rebeca Chairman, J. Hoffman No. 31 Assembly	**Reading Demonstration** M. E. Brown Chairman, F. MacLachlan No. 9 Kindergarten	**Reading Demonstration** D. Johnson Chairman, M. F. Simpson No. 9 Assembly	**Reading Demonstration** D. Johnson Chairman, M. J. Hamilton City Normal Music Room	**Reading Demonstration** J. Cooper Chairman, W. E. Hawley City Normal Drawing Room	**Reading Demonstration** J. Cooper Chairman, G. D. Taylor City Normal Assembly	**Reading Demonstration** J. A. Moore Chairman, R. A. Weeks City Normal Library
	1:15-2:00	**Tests and Measurements** A. L. Martin No. 12 Assembly	**Tests and Measurements** A. L. Martin No. 12 Assembly	**Tests and Measurements** A. L. Martin No. 12 Assembly	**Arithmetic Demonstration** C. Rose Chairman, E. Shuttrop No. 2 Kindergarten	**Arithmetic Demonstration** E. M. Cunningham Chairman, H. E. Gates No. 2 Assembly	**Arithmetic Demonstration** L. M. Mann Chairman, C. Starr No. 31 Kindergarten	**Arithmetic Demonstration** C. Winslow Chairman, A. C. Swanson No. 31 Assembly	**Arithmetic Demonstration** B. Wheeler Chairman, E. J. Bauer No. 9 Kindergarten	**Arithmetic Demonstration** A. Allen Chairman, D. D. Taylor No. 9 Assembly	**Arithmetic Demonstration** L. Taylor Chairman, M. E. Simpson City Normal Music Room	**Arithmetic Demonstration** H. T. Leary Chairman, C. Wisner City Normal Drawing Room	**Arithmetic Demonstration** C. Hall Chairman, J. Gallup City Normal Assembly	**Arithmetic Demonstration** E. M. Howey Chairman, M. E. Howey City Normal Library
	2:10-2:55	**Free Activities** B. D. Vanlaare M. J. Hillel No. 13 Kindergarten	**Language Demonstration** M. Way Chairman, F. L. Brown No. 12 Assembly	**Language Demonstration** M. Way Chairman, F. L. Brown No. 12 Assembly	**Spelling Demonstration** J. Lacey Chairman, M. F. Logan No. 2 Kindergarten	**Spelling Demonstration** J. Lacey Chairman, J. M. Shield No. 2 Assembly	**Geography Demonstration** E. G. Smith Chairman, C. Lotz No. 31 Kindergarten	**Geography Demonstration** M. E. Welch Chairman, J. Arnott No. 31 Assembly	**Geography Demonstration** R. M. Hoffman Chairman, G. D. Warden No. 9 Kindergarten	**Geography Demonstration** K. O'Brien Chairman, E. Shuttrop No. 9 Assembly	**Geography Demonstration** A. C. Nabb Chairman, P. M. Jones City Normal Music Room	**Geography Demonstration** M. B. Wilkins Chairman, E. E. MacLachlan City Normal Drawing Room	**Geography Demonstration** F. C. Bryan Chairman, C. L. Farrington City Normal Assembly	**Geography Demonstration** F. C. Bryan Chairman, M. E. Simpson City Normal Library
	3:15-4:00								**Spelling Demonstration** M. Arbogast Chairman, M. Way No. 9 Kindergarten	**Spelling Demonstration** M. Arbogast Chairman, A. F. Kain No. 9 Assembly			**Discussion Jane Tests** M. E. Simpson City Normal Assembly	**Discussion Jane Tests** E. T. Cooper City Normal Library
Friday	9:00-9:45	**Music** C. H. Miller City Normal Gymnasium	**Penmanship** E. C. Mills City Normal Drawing Room	**Penmanship** E. C. Mills City Normal Drawing Room	**Drawing** H. E. Lowe City Normal Music Room	**Drawing** H. E. Lowe City Normal Music Room	**Health Education** H. J. Norton City Normal Assembly	**Health Education** H. J. Norton City Normal Assembly						
	9:55-10:40	**Drawing** H. E. Lowe City Normal Music Room	**Health Education** H. Pettengill City Normal Kindergarten	**Health Education** H. Pettengill City Normal Kindergarten	**Music** C. H. Miller City Normal Gymnasium	**Music** C. H. Miller City Normal Gymnasium	**Penmanship** E. C. Mills City Normal Drawing Room	**Penmanship** E. C. Mills City Normal Drawing Room	**Health Education** H. J. Norton City Normal Assembly	**Health Education** H. J. Norton City Normal Assembly			**Domestic Art** M. A. MacCormack City Normal Library	**Domestic Art** M. A. MacCormack City Normal Library
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Saturday	9:30-10:15	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Discussion Jane Tests** G. W. Cooper No. 9 Kindergarten	**Discussion Jane Tests** J. G. Watt No. 9 Assembly	**Discussion Jane Tests** W. E. Hawley City Normal Music Room	**Discussion Jane Tests** J. Gallup City Normal Library	**Penmanship** E. C. Mills City Normal Drawing Room	**Penmanship** E. C. Mills City Normal Drawing Room
	10:20-11:20	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly	**Occupational Projects Exhibit** *Committee City Normal Assembly			**Drawing** H. E. Lowe City Normal Music Room	**Drawing** H. E. Lowe City Normal Music Room	**Music** C. H. Miller City Normal Gymnasium	**Music** C. H. Miller City Normal Gymnasium

SPECIAL NOTICES

Wednesday, Sept. 6, 1922, 9:30 A. M.—All each school Principals meet Teachers

Wednesday, Sept. 6, 1922, 1:15 P. M.—Domestic Science Teachers will meet Miss Morrow in her office, Municipal Building.

Wednesday, Sept. 6, 1922, 1:15 P. M.—Special Class Teachers will meet Miss Scott at the Assembly Hall, Municipal Building.

Wednesday, Sept. 6, 1922, 1:15 P. M.—Visiting Teachers will meet Miss Cass in her office, Municipal Building.

Thursday and Friday, Sept. 7-8, 1922, 10:15 A. M.—Manual Training Teachers will meet Mr. Knight in the Lunch Room, City Normal School.

Friday, Sept. 8, 1922, 2:00 P. M.—Madison Junior High School—Meeting of all Teachers.

*Committee on Occupational Projects—Grades I-III.

E. Kirk, E. M. Stewart, S. Grimm, M. Orr, C. M. Rogers, M. Morse, H. Haywood, M. Rausch, M. Lacey, L. Taylor, M. C. Lenihan, C. V. O'Brien, M. Field, E. J. Robinson, C. Betz, M. Collins, H. Bardwell, E. Hewey, M. A. Barnard, A. Gibson, I. Vogt.

DEPARTMENT OF ELEMENTARY GRADES AND KINDERGARTENS

in each school. At this time each principal checks the particular assignment made for each teacher in June, and makes any necessary changes; meets all new teachers and explains any details of the Institute schedule which may not be clear. Matters of organization pertaining to the first day of school also are discussed. By making the provision for principal and teachers to come together thus early in the week, many matters may be adjusted which will make it possible for teachers to secure greater benefit from the sectional meetings to follow.

3. The time is divided proportionately between the special and the general subjects.

4. The term "Special Subjects" refers to music, drawing, penmanship, and health education, while "General Subjects" include reading, spelling, arithmetic, English, and geography.

5. In order to prevent confusion on the part of the teacher, the entire time Wednesday afternoon and Friday morning is devoted to the special subjects, while all day Thursday and Saturday morning are given over to the general subjects.

6. Friday afternoon is scheduled for a general meeting of all teachers of the system. The Superintendent of Schools has the direct responsibility of the program for this meeting.

7. The schedule is so arranged that each group of teachers has three vacant periods during the week. While this is immaterial in itself, it is of vital importance in that *an equal provision is made for all.*

8. All names appearing on this schedule represent people in the public school system itself. No outside speakers have a place on this particular program. Special meetings are held during the year when noted speakers address the teachers.

9. The special subjects are under the direction of the supervisors of the respective subjects. The name of the supervisor is stated under each of the special subjects.

10. Each teacher was given a copy of this schedule before school closed in June. Copies also were mailed to all teachers entering the system in September.

THE TYPE OF PROGRAM PROVIDED FOR THE GENERAL SUBJECTS

The problem constantly before the Kindergarten-Primary Supervisor, the Supervisor of Elementary Grades and me, as we planned this schedule was: How may the best principles of psychology and pedagogy in the various subjects be put before the teachers so that inexperienced teachers new to the system may be stimulated rather than overwhelmed, and the teachers long in service given a new conception of the possibilities of the subject? The most hopeful solution seemed to be through the medium of the demonstration lesson and supervised observation.

We are all aware that demonstration teaching and supervised observation are professional innovations of an earlier period than our own. When Henry Barnard employed Mr. William G. Baker, a successful teacher of the time, to conduct a demonstration school for the Institutes in Rhode Island, and sent this small school of twelve pupils around the state in a covered wagon, he had a vision of the possibilities of the demonstration as a medium for the improvement of teaching. It is my belief that through this medium of demonstration teaching and supervised observation we may best accomplish the two objectives previously stated, viz:

1. The development of local teacher initiative.
2. The consideration of local educational problems and the standardization of results.

HOW THE DEMONSTRATIONS WERE ORGANZIED

The program for Thursday and Saturday covers all the general subjects for the Kindergarten and Grades I–VI inclusive. Fifty different demonstration lessons are provided, besides discussion and explanation of certain lines of new work, e.g., the Language Course

of Study for Kindergarten and First Grade and Phonetics Course of Study for Grades I–III. It should be noted here, however, that no teacher observes more than five demonstrations in the general subjects during the week.

The selection of the fifty teachers for demonstration work involved considerable study, extending over the entire year. Whenever any work was found to be of a high type, the teacher was asked at once to keep the Fall Institute in mind. Notes were kept by members of my department in order that we might have an accurate record of good teaching when the time for organizing a program should arrive. One great benefit from such a policy is that teachers are stimulated to greater effort and study when they realize that good work will be recognized. It also encourages them to attempt to render assistance to others by demonstrating methods which they have found to be successful.

Three years ago demonstration work of this character was started on a much smaller scale. At that time teachers were extremely hesitant in assuming the responsibility, not because they were unwilling to coöperate but because they lacked courage. At the present time, however, the response is most gratifying. In fact it is not uncommon for teachers to *ask permission* to be placed on the Institute program.

THE SERVICE RENDERED BY THE SUPERVISING PRINCIPALS

A program planned on so broad a scale requires the active participation of many people. In each case, therefore, where a demonstration lesson is given, a principal, vice-principal or some member of my department acts in the capacity of chairman of the section. With very few exceptions, all due to legitimate reasons such as illness, practically every one of the principals of the forty-four elementary schools is scheduled as leader of a section.

Before the schedule was printed, I personally conducted a group conference with each group represented on the program. These conferences were followed by smaller meetings, chiefly individual conferences, with each chairman and teacher. At these conferences the particular kind of demonstration lesson was agreed upon and plans discussed in terms of the principles to be emphasized during the demonstration.

Each demonstration was to be followed by a fifteen-minute period for discussion. Each chairman and teacher had planned three questions which were to serve as the basis of discussion. Simple plans and outlines of the lessons had been prepared and were ready for distribution to the teachers. These details are imperative if the observation of the lesson is to be directed or supervised to any purpose.

THE SERVICE RENDERED BY PUPILS AND PARENTS

Since schools are not in session preceding the Institute week, the coöperation of parents is necessary to insure the presence of the children for demonstration purposes. The form letter on page 8 was sent to the parents before schools closed in June. It shows how it was made clear to the parents that the service of the child is desired for demonstration work. The letter was organ-

ized by the principal and teachers of School No. 36 and is one of their contributions.

OTHER ORGANIZATIONAL DETAILS

Any plan to be successful not only must be conceived in the large, but many minor details must be worked out with considerable care. The details of this particular schedule involve such matters as:

1. The selection of schools to be used as centers for the meetings. Five schools were to be used for this purpose.
2. Preparing and sending letters to parents.
3. Selection of classes for demonstrations.
4. Providing teachers with postal cards to be sent to pupils a few days previous to the day of the demonstration, notifying them of the time to meet for final directions. No demonstration lesson itself is previously drilled upon by the teachers. This is not desirable and is impossible in any case, as the pupils are not in school previous to the week of Institutes.
5. Organizing and providing the janitor of each "center" with a statement of the equipment needed for each period (number of seats for teachers, desks for children, blackboards, charts, maps, etc.).

OUTCOMES OR RESULTS TO BE EXPECTED

A coöperative enterprise of this character should do much to develop initiative upon the part of the individual teacher. If there were no other tangible results, the fifty teachers participating in the demonstration work should be considerably stronger because of the closer scrutiny they have given to their teaching. The many indications we have had showing that other teachers do profit from this work is sufficient reward for all effort and thought expended in the preparation of such a schedule.

These demonstrations furnished the basis of discussion in teachers' meetings in the various schools during the early part of the semester, when methods of procedure are being formulated.

Before the end of September we are planning to send a form letter to each school asking for the frank reaction of the teachers to the work presented during the Institutes and the general plan of the organization. We greatly desire the reaction of the teachers in this way. Since they realize that the Institutes are planned expressly to further good teaching through recognition of the *good things* already within the system, they, in turn, aim to make their criticisms of value in consideration of future plans and revisions.

The Institutes enable us not only to develop teachers but also to discover special types of ability among our teachers. In a large school system with innumerable opportunities for promotion, the supervisor must be ever on the alert to locate those teachers who are capable of rendering a different kind of service in some other capacity.

Concrete illustrations through demonstration lessons help to standardize results by making it possible for inexperienced or weak teachers to attempt *to follow* the good work initiated by stronger teachers. In order that the work of the general institute may be the most effective, provision should be made for a series of group or grade meetings to be held during the year, for the further development of the points emphasized during the Institutes. This we are planning to do. It, however, introduces another phase of supervision which cannot be discussed here.

IMPROVEMENT OF TEACHING REQUIRES THE COMBINED EFFORTS OF MANY

Upon whom does the success of such a plan of supervision depend? Does its success or failure rest entirely upon the person or persons who conceived the plan or does it involve the combined interest and effort of many? When one recalls the various groups referred to throughout this discussion, it is evident that for this particular enterprise at least each of the following represents an extremely important link in the chain: one thousand pupils, many parents, fifty teachers, the entire force of elementary school principals, janitors of schools used as centers, and the entire supervisory staff, including the Superintendent of Schools, directors, special and general supervisors, and supervising teachers.

It would seem, therefore, that the foregoing plan of supervision emphasizes supervision not in terms of "a one man job" but in terms of the combined efforts of all for the furtherance of that great end, the improvement of teaching, in order that pupils may acquire the power of self-direction.

We appreciate the fact that the Institute is not a *perfect instrument* of supervision. It has its limitations and disadvantages, all of which must be given careful consideration, but our experience during the past three years leads us to believe that much can be accomplished through this medium.

LETTER TO PARENTS

June 19, 1922.

Dear Madam:

Will you consent to have your son (daughter) take part in a ———— lesson to be given in No. —— School on ———— Street, Thursday, September 7, 1922, at ——— o'clock. The children will be accompanied by their own teacher.

He (she) should report at his (her) own school on Wednesday morning, September 6, at —— o'clock for instructions.

There will be no expense involved, except carfare, which we are prepared to furnish providing it is not convenient for you to do so.

A postal card will be sent to you in September reminding you of the date.

If you approve of this, please sign your name on this letter and return.

Sincerely yours,

Teacher.

Principal.

IMPROVING THE READING ABILITY OF COLLEGE STUDENTS

CLIFF W. STONE

Professor of Education, School of Education, State College of Washington

The data for this study are the results of work with fifteen college classes. The data reported in detail were chosen because of accessibility. The students who served as subjects were of junior, senior, or graduate standing. Five of the classes were at the University of Illinois, and ten at the State College of Washington. Of the ten classes at the State College of Washington, five were in Principles of Education, and five in Educational Measurements; one at the University of Illinois was in Educational Psychology, two in an introductory course in Education, and two in Educational Methods. The latter two served as check groups. The ten classes at the State College and the

Educational Psychology class at the University of Illinois were taught by the writer; the two in the introductory course, by Mr. Martin Stormzand; and the two in methods, by Mr. A. G. Capps. Mr. Capps gave no special attention to silent reading ability except to have his students take the Monroe and Stone Extension Tests. Mr. Capps' class served as the check group. Mr. Stormzand gave only indirect attention to silent reading ability, but he made extensive assignments in collateral reading and had his students take the Monroe, Stone Extension, and other tests that placed a premium on silent reading. His classes served as partial practice groups. Neither of these instructors reported scores to his students and neither directed the attention of his students to the question of improvement. The writer gave direct attention to silent reading ability, had his students take many tests, reported their scores to them, enabled them to diagnose their difficulties, and directed their improvement. Much collateral reading was done in his classes under controlled practice conditions. This article is an account of the procedure in securing improvement. The findings are organized under the headings—*Motives, Methods, Results.*

I. THE MOTIVES FOR IMPROVEMENT

The motives for improvement in silent reading arose from desire for efficiency. This desire was engendered by:

1. Measurement of capability.
2. Interpretation of capability in terms of standards.
3. Realization of importance of capability.
4. Keeping "work curves" of practice.
5. Accounting for progress.
6. Realization of progress through remeasurements.

1. *Measurement of Capability.* The realization that silent reading is a measurable capability was the first source of motive for improvement. Giving students the tests created interest.

The chief means of measurement were Monroe's test for high school students and Stone's Extensions for college students. Other tests used were the Kansas, Haggerty, and several devised by the author.

2. *Interpretation of Capability in Terms of Standards.* Each of the writer's classes was furnished with a graphic representation of the score of each student similar to Figure I and

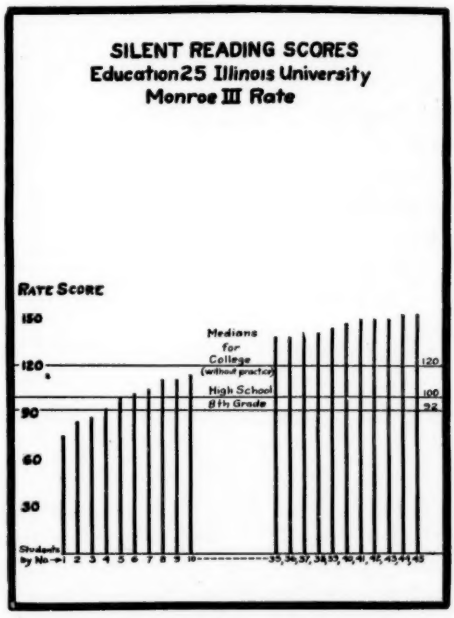

FIG. I. *Portrayal of Scores.* The scores of each practice class were presented to each student in this form. Individual students are represented by numbers along the horizontal base line. Tentative standards are shown in horizontal lines as Eighth Grade, High School, and College.

each student interpreted his score in terms of the tentative standards shown. For example, the student represented by number 45 in Figure I saw that he was above the typical college student and student number 4 saw that he was but little above the eighth grade. These graphs were of suitable size for reading from a wall and were kept in evidence.

3. *Realization of Importance of Capability in Silent Reading.* This realization came through two considerations: (1) the large amount of silent reading demanded by the life of today, (2) the large place that silent reading ability has in "How to Study."

4. *Keeping "Work Curves" of Practice.* As will be shown under *Methods*, much was made of controlled practice. One of the effective sources of motive was the "work curve" showing progress in this practice. Figure II illustrates the graph record as drawn by each student. This record says that for the first day's practice reading in Moore's *What Is Education?* this student read 1160 lines, for the second day she read 1280 lines, which is a gain of 120 lines, etc.

5. *Accounting for Progress.* Motive and interest were increased by accounting for progress. It was made clear that it is just as important to know the *why* of success as to know the *why* of failure. The conditions of success were studied that they might be duplicated and repeated; those of failure, that they might be removed or avoided. For example, the student whose progress is shown in Figure II decided that her improvement was largely due to "deep interest" and "effort for speed and comprehension." Securing the help of these factors needed to be made habitual for this student. Hence the satisfaction of attaining success through

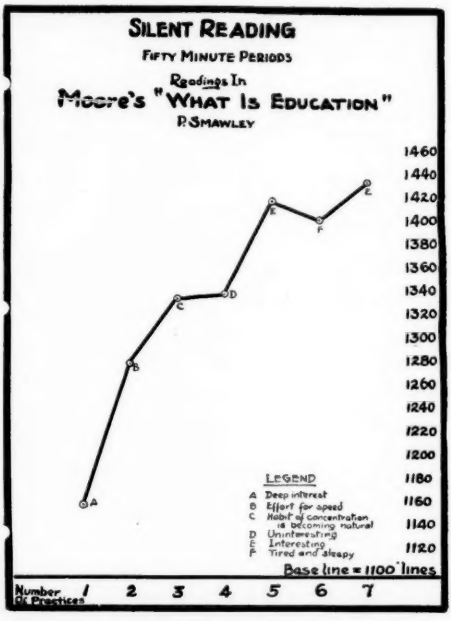

FIG. II. *An Individual Graph.* Each student in the practice classes kept a similar record of progress and diagnosis. The figures on the base line designate the number of fifty minute practice periods.

these factors was emphasized. Studying out and recording these "means of success" are believed to have enhanced this emphasis.

This was the second book to be read by this student under practice conditions, and she is convinced that "the habit of concentration is becoming natural, not as much effort being required as formerly."

6. *Realization of Progress through Remeasurements.* Three or four measurements were made in each class and score representations such as shown in

Figure I were extended as in Figure III. This figure enabled each student to see readily just where his daily practice was getting him. For example, the student whose practice graphs are illustrated in Figure II had the encouragement of seeing that in the second test her score went up from 86 (below first year high school) to 133 (nearly to fourth year high school) in rate, and correspondingly in comprehension.

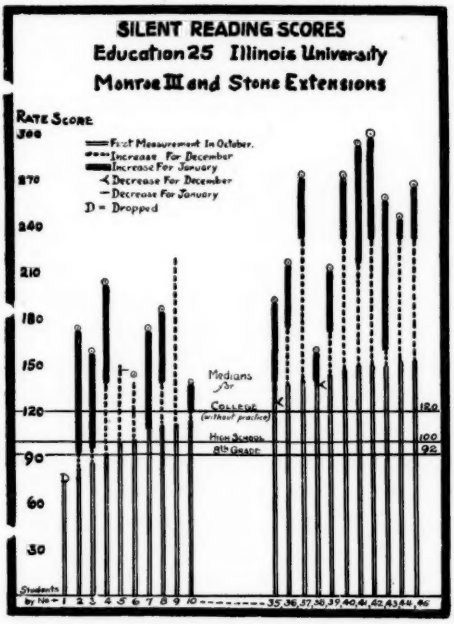

FIG. III. *Two Sets of Gains.* Each practice class was furnished this record. After practice, equivalent tests were given. Lower parts of vertical lines show scores from first test as in Fig. I. Upper parts show gains.

II. METHODS OF IMPROVEMENT

The methods of improvement may be summarized as those of enlightened practice. As is shown in Figure III, each student knew just what he was doing and why. In the Educational Psychology class the interpretation of practice centered about the mental processes required in silent reading as one of the factors in study.[1] In the Principles of Education classes the interpretation centered about silent reading as one of the factors of study whereby self-development is promoted. In the Educational Measurements classes there was only a small amount of interpretative study. In all the author's classes the practice took the form of individual projects wherein each student undertook (1) to improve himself in the useful capability of silent reading, and (2) to secure first-hand experience in improving as a basis for utilizing measurements in helping future pupils. The methods were individual to the extent that each student was enabled to diagnose his own case and, within certain limits, to prescribe for and supply his own needs.

Certain fundamentals of method are stated above, under motives. Other phases of the methods employed will be considered under:

1. Conditions of Practice.
2. Study of Factors of Success.
3. Diagnosing and Removing Hindrances.
4. Securing Persistence in Practice.

1. *Conditions of Practice.* Every student was expected to use his required reading for practice and, in addition, all were encouraged to select some other especially interesting reading to be done under practice conditions. In the Educational Psychology class each student read two or more such books as

[1] For a somewhat extended account see Stone and Colvin, "How to Study as a Source of Motive in Educational Psychology," *Journal of Educational Psychology*, September, 1920.

Strayer and Norsworthy's *How to Teach*, Seashore's *Psychology of Daily Life*, Angell's *Chapters from Modern Psychology*, etc. In the Principles classes each read Miller's *Education for the Needs of Life*, Moore's *What is Education?* and Dewey's *Democracy and Education*. Several students also read such books as Bourne's *Education for Life*, Dewey's *Schools of Tomorrow*, etc., and some read books of fiction.

The conditions of practice were standardized through the following regulations:

1. Practice one period between each two recitations.
2. Read as much as you can and at the same time comprehend well enough to summarize the main helps covered.
3. Use the same amount of time for each practice period, not less than thirty nor more than fifty minutes.
4. Omit unusual passages such as fine print, tables, summaries, etc. Read these if you wish, but not during the practice period.
5. Be specific in filling the record blank, *i.e.*, enter date, exact time, etc.
6. Limit the amount of time for filling the record to ten minutes.
7. Do not review your reading before making the record.

As an aid to the observance of the above regulations and as a means of securing increase in comprehension along with increase in rate, the form given below was made available for each student on notebook pages.

It will be noted that number 2 of the above regulations, "Read as much as you can and at the same time comprehend well enough to summarize the main helps covered," places the emphasis on *speed*. Reversing this direction would have placed the emphasis on *comprehension*. The direction would then have read, "Comprehend as well as you can; at the same time read as fast as you can; and be able to summarize the main helps covered."

All the methods employed in this investigation approach improvement through increase in rates, *i.e.*, increase in rate *with* increase in comprehension. What attacking comprehension directly would do can be known only by further investigation. In approaching improvement through rate, the writer was following the results of investigations as

RECORD OF SILENT READING PRACTICE

Name of Student.....*Title of Book*.....

Date	Time	Place	No. Lines Read	Main Topics Covered

summarized by Gray[1] and as demonstrated by O'Brien.[2] The success of this approach with college students is shown under *Results* in Part III.

2. *Study and Improvement of Factors Conditioning Success.* After each student had practiced a few periods, class consideration was given to the factors conditioning success in silent reading. This study resulted in listing seven:

1. Physical conditions.
   a. Bodily.
   b. Environmental.
2. The recognition that silent reading is very different from, and vastly more important than oral reading.
3. Freedom from lip movement and inner articulation.
4. Conscious striving to read rapidly with comprehension.
5. Effective concentration.
6. Long, well-controlled eye movement.
7. Ability to perceive meanings at a glance.

After these had been listed and partially interpreted the assignment was:

"Study yourself to see how far each of these factors is helping and how far hindering you."

This led to the ways and means of improving the helpfulness of the various factors, and each student was furnished a formulation covering each factor. The following are samples:

Factor 1. PHYSICAL CONDITIONS. As here used, this factor covers the condition of both the physical self and its environment. For the process of reading, the condition of the eyes is probably the most crucial. General physical fitness is also very important. All environmental conditions such as light, comfort, freedom from distractions, etc., are also included here.

TREATMENT: Rely on a first class specialist for the condition of your eyes, and keep physically fit. Adjust environmental conditions favorably. Realize the importance of these and keep at them until you have favorable conditions and have formed helpful habits.

Factor 2. RECOGNITION OF DISTINCTIVENESS AND IMPORTANCE OF SILENT READING. Silent reading is for the purpose of *getting* material for study; oral reading is for the purpose of *giving* material in the language of the author. This distinction has been little recognized in the reading work of the grades and high school. With most teachers, silent reading has been resorted to as a makeshift, and condoned because of lack of time for oral reading. Only recently has there been a widespread definite attempt to increase ability in silent reading.

TREATMENT: Realize the relatively small place of oral reading in life's activities. Note the large use of silent reading in the study of all subjects, and in keeping up with the times through newspapers and magazines; and recognize that silent reading is an improvement over oral reading, just as speech is an improvement over gesture.

* * * * *

Factor 7. ABILITY TO PERCEIVE MEANINGS RAPIDLY. The helpfulness of this factor is probably mainly dependent on breadth of reading. It is a vocabulary problem and the best means of increasing vocabulary is to increase the amount of intelligent reading. Vocabulary tests will help you to make certain as to the helpfulness of this factor.

TREATMENT: Force yourself to read much and at the same time get the meaning. Try the plan of sketching ahead to secure a "bird's-eye view," then read more closely to fill in the details. Decide on a plan for increasing your vocabulary, such as listing synonyms, and systematically follow it.

Typical assignments in this stage of the study were:

"Select the factor that is now helping you most, and the one that is helping you least; be ready to justify your selections."

"List the improvements you need to make in order to get the full help of the physical factor. Separate these into the two classes, *bodily* and *environmental*."

This latter assignment was usually

[1] Gray, W. S., *Eighteenth Year Book, Part II.*

[2] O'Brien, John A., *Silent Reading*, Macmillan Co.

continued for several days and then modified to call for improvements *that had been made*. As listed by a class of 43, these improvements totaled 190 accomplished and 24 still needed. The items most frequently listed were *correction in lighting and forming time study habit. Five* of the 45 made *corrections for defective eyesight.*

Study of the other factors was also made with a view to their improvement. For example, lip movement and other articulations were shown to be not only unnecessary, but a positive hindrance. This was demonstrated by the findings that lip movers and articulators are slow readers, and by pointing out that the direct route for getting meaning from the printed page is *optic nerve to meaning response* and not from optic nerve to throat, lip, or other articulation movement response and then back to meaning response.[1] This study made it evident that the elimination of articulation in the change from oral to silent reading is a "short cut." This "short cut" was recognized as an important means of saving time.

Eye movement was also studied through the results of investigations. It was shown how eye movements control rapidity of reading; and interest was increased by having students watch each other's eye movements. Both the direct and the mirror method were used. Students were easily convinced after these studies that improvement in reading required much persistent practice in order (1) to break down poor habits, and (2) to form better ones.

3. *Diagnosing and Removing Hindrances.* Each student was encouraged and helped to diagnose his own case and remove his own hindrances. Brief reference was made to silent reading as such in class time; and individual conferences were encouraged. For about half of the members of each class, mere practice seemed sufficient to enable them to make very perceptible improvement. For the other half, practice was ineffective because of hindering factors. The most serious of these hindrances was defective eyesight. Unless this could be remedied, practice was not allowed, for it seemed quite certain that defective eyes should not be submitted to the drive necessary to break up old habits and establish new ones. From five to ten per cent of each class consulted eye specialists and most of these secured sufficient relief to resume the practice.

The most commonly reported difficulty was lack of *effective concentration.* Realization of this led to all sorts of adjustments, such as — stricter house rules during study hours, time study habit, a place study habit, and the removal of distractions such as pictures, letters, other books, etc.

The most difficult hindrance to remove is inner articulation. Out and out lip movers are very scarce among college students. They have evidently been eliminated. The eradication of inner articulation was cause for strenuous effort. This struggle may be illustrated in the case of a certain graduate student. Figure IV shows one record

[1] In other words, rapid, effective silent reading depends on the establishment of *bonds* between light-reflection from print (Stimulus) and meaning (Response), rather than *bonds* between light-reflection from print (S) and articulation (R), which in turn require *bonds* between articulation (S) and meaning (R).

After Thorndike, *Educational Psychology*, also Kilpatrick, *Mind-Set and Learning*, in this Journal, Volume I, Numbers 3 and 4.

of her reading for this purpose. She made similar records of the reading of four other books in which the special purpose was the eradication of inner articulation. She summarized and interpreted the results of each of these endeavors. The following are representative records of these self-conducted diagnoses:

My first reading was done in Miller's *Education for the Needs of Life* from Sept. 30 to Oct. 15 and in Bourne's *Education and Living* from Oct. 15 to Oct. 21. No previous training had been received in silent reading. Gains as shown on graphs are accounted for under a, b, c, etc., below.

(a) Great increase probably due to becoming acquainted with the subject matter.

(b) Steady increase for same reason and also improved physical conditions.

(c) Slight decrease because of slight increase in difficulty and then inner articulation.

(d–e) Show a decided increase in rate in spite of inner articulation. *All my efforts were centered upon the elimination of inner articulation.*

(f) Change from Miller to Bourne. A slight overlapping of material and also a more easily read book. As soon as difficulty decreases, the rate increases and inner articulation decreases.

(g) Shows a drop in spite of endeavor.

(h) Another rise due to a determination to overcome articulation.

(i) Another drop like (g). There may be a slight change for more difficult material.

This graph shows that a decided improvement was made with material of as nearly the same difficulty as practicable.

My second graph represents the progress made in reading Dewey's *Democracy and Education*. The change from Miller to Dewey greatly increased the difficulty.

(a–b) Show a decided decrease from 1300 lines per 50 minutes to 735 lines per 50 minutes. The material was very much more difficult than Miller or Bourne, which caused slower reading for comprehension, and with *slower reading, inner articulation again became a hindering factor to rate.*

(c) Again an increase in rate, which does not reach the rate in Bourne. (a), (b), and (c) are quite representative of the entire reading of Dewey. There is a continual rising and falling of rate as the difficulty of the subject matter increases and changes. In spite of this rise and fall of rate, there is a gradual but slow *increase in rate due to constant endeavor to overcome inner articulation.*

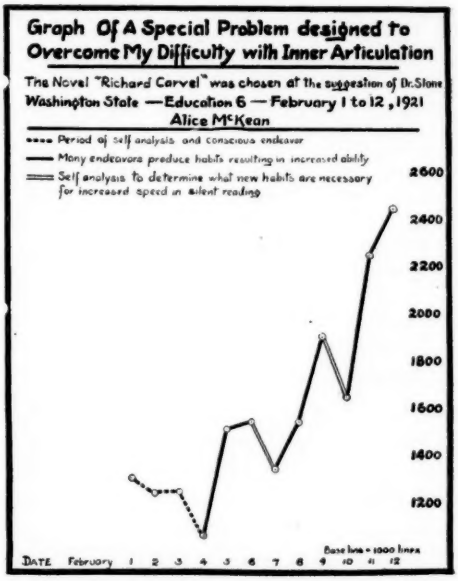
Graph Of A Special Problem designed to Overcome My Difficulty with Inner Articulation
The Novel "Richard Carvel" was chosen at the suggestion of Dr. Stone
Washington State — Education 6 — February 1 to 12, 1921
Alice McKean
Period of self analysis and conscious endeavor
Many endeavors produce habits resulting in increased ability
Self analysis to determine what new habits are necessary for increased speed in silent reading
2600
2400
2200
2000
1800
1600
1400
1200
DATE February 1 2 3 4 5 6 7 8 9 10 11 12
Base line = 1000 lines

FIG. IV. *Special Practice.* One of four graphs in which this student portrayed her practice and diagnostic study. *Richard Carvel* was found suitable material for the elimination of *inner articulation.* The pull of interest, combined with the push of determination, produced a rate that excluded articulation.

4. *Persistence in Practice.* As is shown under Motives, the need for persistence in practice was realized through frequent reference to achievement as portrayed in graphs. Records of successful students were shown to the entire class and the methods of achieving noted. Much help in obtaining persistence in practice was also secured through the realization that because of the nature of habit, continuous practice

is essential to the reconstruction of the reading process.

An effective means of promoting practice was the collecting of the progress graphs after each four or five readings. These graphs were checked, graded, and frequently made the basis of class discussions or individual conferences. The following points constituted the "score card" for rating the graphs:

1. Number of readings, with dates.
2. Compliance with form as agreed.
3. Drawn on scale as agreed.
4. Reading record, according to prescribed form, attached.
5. Consistent gains.

For the first time handed in, a graph for Miller's *Education for the Needs of Life*, showing a rate of more than 1100 lines and no defects, scored *A*. One minor defect or omission, and above 1100 lines, scored *A*−. One important mistake or omission, and above 1100 lines scored *B*+. No mistakes or omissions, and 1000 to 1100 lines scored *B*. One minor mistake or omission and 1000 to 1100 lines scored *C*. One important mistake or omission and 1000 to 1100 lines scored *C*−. More than one important mistake or omission and less than 1000 lines scored *D*.

The basis for scoring was similar for later reading in the same book, and for reading in other books, except that the number of lines was adjusted. For example, second scorings of Miller were based on 1200 lines as a minimum for *A* grade, and the first scorings in Dewey's *Democracy and Education* were based on 1200 lines, even though the standard had been 1500 lines for Moore's *What is Education?*

The returning of graphs was accompanied by the assignment:

Those not making satisfactory progress rediagnose your difficulties and confer with the instructor as to remedial measures.

Another potent means of encouraging persistence in practice was that of having brief reports of the help that increased reading ability was giving in other subjects. This was augmented by having students estimate the percentage of their college work that demanded silent reading ability. These estimates varied from 30% in such courses as physical education to 85% in economics and history.

Persistence was also secured by certain methods of review. These were: rapid review in limited time, completion tests, true-false tests, etc. The rapid review was conducted by making long assignments and limiting the time, *e.g.*, "Review the first half of Miller, Chapter II, using not more than ten minutes," it being understood that this assignment would be followed by a test. The giving of completion tests emphasized silent reading ability in that the time was limited, all being required to stop as soon as two had finished.

In the Education 25 class at Illinois, persistence was increased by class contests in silent reading, based on the main text. For the purpose of these contests, the class was divided into equal groups on the basis of scores from standardized tests. This device was used during the last two weeks of practice. During the last week of practice, persistence was further strengthened by the announcement that term grades would depend partly on the amount of

gain shown by the final silent reading test.

As may be seen in Table I below, this class made the highest final score. The writer believes that the final gain of this class was due largely to the impetus given by the "contests" and "term grade" devices. It is also the belief of the writer that the variations in class gains as shown in Tables I and II are largely due to variations in the degree of persistence in practice. The gains are believed to have varied directly as the *emphasis on* and *persistence in practice* varied.

III. RESULTS

The results of improvement were determined by three means, viz., standardized tests, records of practice, and students' belief as to their improvement in reading outside the courses in which practice was given. By all these measures the results were notable. The average gains as shown by standardized tests were 35% to 108%; individual gains in standardized scores were correspondingly great; records of practice frequently showed a gain of 100% secured during the reading of a single book; and students generally professed belief that their improvement in general reading ability was gratifyingly large.

A close study of the results from all practice classes shows that every student who continued the practice made notable gains. However, there were usually a few students in each of the fifteen classes that continuously failed to improve during the early stages of the practice. About half of these were able to locate and remove the obstacles to their success. These improved perceptibly and registered substantial gains. The others failed and became discouraged. Students who failed in silent reading usually failed also in the other phases of the course, and invariably

TABLE I—AVERAGE RATE SCORES
MONROE III AND STONE EXTENSIONS

Classes	Practice				Partial Practice		Check	
	Ed. 25[1]	Ed. 6A[2]	Ed. 6B[2]	Ed. 6C[2]	Ed. 1A[1]	Ed. 1B[1]	Ed. 10 A and B–1	Similar Students
No. students.....	39	31	39	33	89	41	37	405
First test scores.....	119	91	114	106	127	113	114	119
Second test scores...	177	130	131	132	163	152	144	
Gains.....	58	39	17	26	36	39	30	
Third test scores....	219	170	155	157	154	155	150	
Gains over second test	42	40	24	25	−9	3	6	
Fourth test scores....		189						
Gains over first test..	100	98	41	51	27	42	36	
Gains in per cent....	84	108	36	48.1	21	37	32	

[1] University of Illinois classes.
[2] State College of Washington classes.

they had low scores in the initial reading tests. The score of Student 1, shown in Figure I, is typical of failures. He dropped the course. Most students professed to like the practice, especially after they had made good gains. Probably the student attitude may be summarized as, "A good thing to have done." The results are reported here under:

1. Class gains.
2. Individual gains.
3. Variability among individuals.
4. Relation of rate gains to comprehension gains.

1. *Class Gains.* The gains of typical classes are summarized in terms of averages in Tables I and II. Table I gives the average scores and gains of the University of Illinois classes and of three State College classes in rate; and Table II gives the average scores for the same groups in comprehension. The initial averages of 405 University of Illinois advanced students are also shown. It is significant that the initial averages of each of the classes in both rate and comprehension corresponds closely with the average of 405 students of similar advancement. This indicates that classes with whom investigations were conducted were typical.

Continuing to read Table I, it is seen that in the first test the 39 students of Education 25 made an average score of 119 in rate; in the second test they made 177, or a gain of 58, and in the third test they gained 42 more. This made a total average gain for Education 25 students of 100 points or 84% over their first test record. The 89 students of Education 1A (a partial practice group) made an average of 127 in rate in the first test, 163 in the second test (or an average gain of 36), and by the third test they had lost 9. This made a total average term gain for Education 1A of 27 points or 21%. The columns for Education 1B and 10 read similarly.

TABLE II—AVERAGE COMPREHENSION SCORES
MONROE III AND STONE EXTENSIONS

Classes	Practice				Partial Practice		Check	
	Ed. 25[1]	Ed. 6A[2]	Ed. 6B[2]	Ed. 6C[2]	Ed. 1A[1]	Ed. 1B[1]	Ed. 10 A and B[1]	Similar[1] Students
No. students	39	31	39	33	89	41	37	405
First test scores	47	43	42	40	48	43	43	46
Second test scores	73	48	48	52	73	67	58	
Gains	26	5	6	12	25	24	15	
Third test scores	82	73	57	61	69	59	52	
Gains over second test	9	25	9	9	−4	−8	−6	
Fourth test scores		74						
Gains over first test	35	30	15	21	21	16	9	
Gains in per cent	74	70	36	53	44	37	21	

[1] University of Illinois classes.
[2] State College of Washington classes.

It may be seen from this table that the students of Education 25 made nearly three times as much gain in rate as students of Education 10, the check classes.

It may also be seen that the practice groups made considerable more gain than the partial practice groups or the check group.

Tables I and II show Education 25 and Education VIA classes to have made the best gains. The writer believes that these gains are accounted for by the greater attention given to improvement in silent reading in these two classes. More short stimulating tests were given; more graphs of daily practice were collected; more individual conferences were held; more individual practice projects were initiated and carried out; and the practice was continued for a longer time. It is also worth noting that these added helps were afforded without detracting from the quality of the work on the content of the courses. It is the writer's firm conviction that the content was better handled in these than in the classes in which smaller reading gains were made.

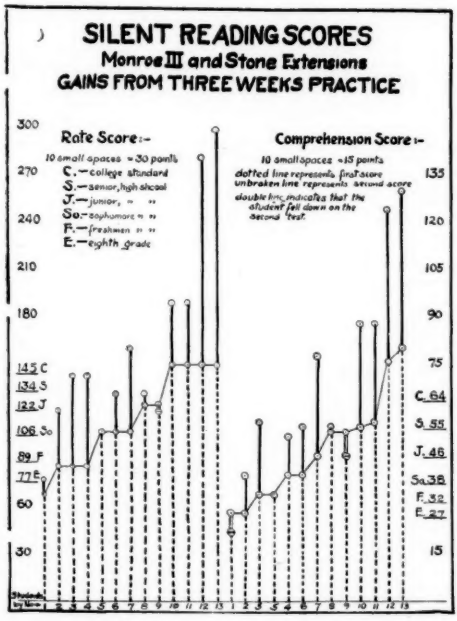

FIG. V. *Individual Gains from Short Practice.* First scores in broken lines, second in solid.

Table II shows comprehension scores and gains. It reads similarly to Table I. Here again the superiority of each of the practice groups is clearly apparent. Students of Education 25 are here seen to have made nearly twice as much gain in comprehension as students of Education 1 (partial practice group), and nearly four times as much as the students of Education 10 (check group).

2. *Individual Gains.* Results were considered throughout this investigation in terms of individual gains. Figure V represents the gain made by a class in Educational Measurements during three weeks of daily practice. The results shown in Figure V are typical of the outstanding individual differences found among college students. For example, student number 1 had an initial score hardly as good as eighth grade, and made very little improvement, while student number 13 had an initial score better than the typical college student, and made almost 100% gain.[1] This latter is the best record known to the writer. It was made by a mature woman. Her daily practice is shown in Figure VI.

[1] It is probable that the actual gain was not quite so much as here indicated because of the first test having been completed before the end of the time limit.

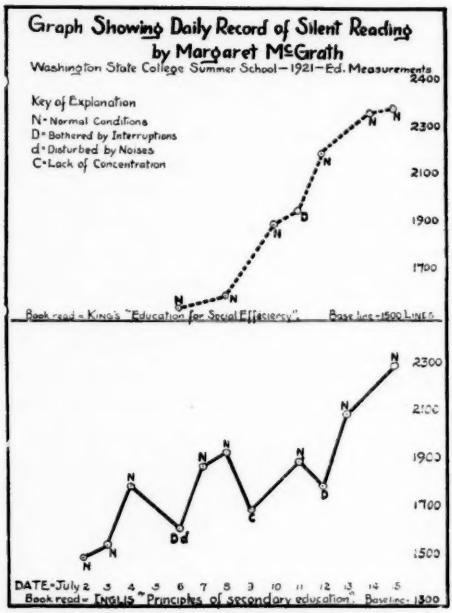
Graph Showing Daily Record of Silent Reading
by Margaret McGrath
Washington State College Summer School—1921—Ed. Measurements
Key of Explanation
N = Normal Conditions
D = Bothered by Interruptions
d = Disturbed by Noises
C = Lack of Concentration
2400
2300
2100
1900
1700
Book read = King's "Education for Social Efficiency".
Base line = 1500 Lines
2300
2100
1900
1700
1500
DATE—July 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Book read = Inglis "Principles of secondary education". Baseline = 1300

FIG. VI. *Practice Record of Best Reader.* No other record known to the writer has equalled the score made by this student. Her scores are graphed on No. 13 in Figure V.

Three students of Education 25 made the maximum score of 300 in rate, but all three fell below the maximum in comprehension, hence their records do not equal those of student number 13 of Figure V. Students number 1 and 9 of Figure V each lost in a remeasurement. This is typical of what happened in each class. Every remeasurement saw one or more students fall somewhat below his previous record.

The gain of student number 13 is the more significant in that her practice reading material was outside the course in which the practice was conducted.

Work with other classes indicates that the individual students represented in Figure V would have continued to gain had the practice been continued.

3. *Variability Among Individual Students.* The final test of any method is *what it does to students.* It has been

TABLE III—COEFFICIENTS OF VARIABILITY $\left(\frac{\gamma}{\text{AVE}}\right)$ MONROE III AND STONE EXTENSIONS

In Rate	Practice				Partial Practice		Check	
	Ed. 25	Ed. 6A	Ed. 6B	Ed. 6C	Ed. 1A	Ed. 1B	Ed. 10 A and B	Similar Students
Number of students...	39	31	39	33	89	41	37	405
First test.....	.19	.21	.21	.21	.17	.24	.21	.20
Second test.....	.20	.12	.12	.17	.20	.25	.22	
Increases.....	.01	−.09	−.09	−.04	.03	.01	.01	
Last test.....	.19	.21	.19	.19				
Increases over first test	.00	.00	−.02	−.02				
In comprehension								
First test.....	.36	.21	.35	.26	.29	.33	.34	.33
Second test.....	.33	.20	.28	.25	.31	.35	.37	
Increases.....	−.03	−.01	−.07	−.01	.02	.02	.03	
Last test.....	.25	.27	.24	.27				
Increases over first test	−.11	.06	−.11	.01				

shown above that the methods employed caused notable gains. A further inquiry may well be, "How far did the methods cause all students to gain equally?" or *How did the methods effect the variability among students?* To answer this question, coefficients of variability were computed. The formula employed was standard deviation divided by the average $\left(\frac{\sigma}{\text{Ave}}\right)$. Table III gives the results in both rate and comprehension.

Reading Table III, it is seen that the students of Education 25 began with a coefficient of variability of .19 in rate, and ended with exactly the same, with scarcely any difference in any test. It is also seen that students of Education 6A did practically the same in rate except that in the second test their coefficient decreased .09. All classes showed very little change in variability in rate, there being a slight increase in the variability in the partial and non-practice groups. This would seem to mean that the methods were well calculated to improve all members of the classes. In comprehension the showing is not quite so uniform, but in general it is evident that variability was decreased rather than increased by the practice.

The conclusions from the above findings would seem to be that the methods are well suited to class teaching. It would seem that all students were reached and developed according to their capabilities.[1]

4. *The Relation of Rate and Comprehension Gains.* As is stated under *Conditions of Practice* above, improvement in silent reading was attempted through improvement in rate *with* improvement in comprehension. This raises the question, *Did the methods employed secure improvement in comprehen-*

TABLE IV—COEFFICIENTS OF CORRELATION—PIERSON FORMULA
RATE AND COMPREHENSION—MONROE III AND STONE EXTENSIONS

Classes	Practice				Partial Practice		Check	
	Ed. 25	Ed. 6A	Ed. 6B	Ed. 6C	Ed. 1A	Ed. 1B	Ed. 10 A and B	Similar Students
Number of students...	39	31	39	33	89	41	37	405
For first test.....	81	58	78	84	72	79	78	78
For second test.....	84	56	45	83	88	90	82	
Increases.....	3	2	−33	−1	16	11	4	
For third test.....	89	68	80	93	85	92	87	
Increase over second test.....	5	12	35	10	−3	2	5	
For fourth test.....		87						
Final increase over first test	8	29	2	9	13	13	9	

[1] What would have happened to the coefficients of variability had all the poorer readers remained in the classes is of course a matter of conjecture. It is the writer's opinion that the coefficients would have started larger and remained proportionately larger.

sion also, and to what degree? To answer this question, coefficients of correlation between rate and comprehension scores were figured for each test. The Pierson formula was used. Table IV summarizes these coefficients.

Table IV reads that in the first test—that is, before training—the relationship found between rate and comprehension scores of students of Education 25 was close enough to give a correlation of +.81. The coefficient for the students of Education 1A for the first test was 72; for Education 1B, 79; for Education 10, 78; and for the 405 students of this and previous years, 78. In this latter coefficient, we have further evidence that the students of the classes used in this study were typical. This is shown in the close correspondence of the coefficients of the various classes to the coefficient of the 405 students. With the exception of Education 6A, the initial coefficients are notably uniform. Why 6A should have started so low is difficult to understand. The uniform increase in coefficients, as shown in the second measurements, is gratifying. It will be noted that there is a slight increase among all the practice classes except one, and considerable more increase among the partial practice and non-practice groups.

Continuing to read Table IV, it is seen that *all* classes increased their coefficients. The increase was uniform except 6B. The fact that practice and non-practice classes made these gains would seem to indicate that the mere giving of tests tends to stabilize the relationship between rate and comprehension. The fact that the practice groups not only continued the degree of relationship found among initial scores, but *increased this relationship*, would seem to indicate that the practice students were so guarded that while increasing their rate they increased their comprehension proportionately.

CONCLUSIONS

Improving silent reading ability is so new an endeavor that most conclusions must be tentative. This study seems to justify the following:

1. That the silent reading ability of college students may be markedly improved. That this is true of even the best readers, and that the typical college student may readily increase his silent reading ability 50% to 100%.

2. That the limits of silent reading ability are not known and probably have not been reached.

3. That this is a very fertile field for investigation.

4. That marked improvement may be secured by approaching improvement through emphasis on increased rate—increased rate with increased comprehension. (Emphasis on comprehension with rate might be as successful, or even more so; this is one of many problems needing investigation.)

5. That potent *motives* for improvement may be engendered through confronting students with their status, their progress, and the achievements of fellow students.

6. That many college students need help in establishing favorable physical conditions. That a considerable number are not fully benefiting by such fundamental helps as *eyesight* and *light*.

7. That improvement in silent reading ability lends itself well to the dem-

onstration of laws of learning and principles of development. That, in the main, this improvement may be secured as *by-product* to the usual work of courses in Educational Psychology and Educational Principles; and that the accruing of these by-products strengthens the work of the courses.

8. That much of the practice procedure of the investigation as set forth in this article is adaptable to typical "reading" courses of college and high school. (Sufficient trial has already been made by the writer to convince him of the soundness of this conclusion.)

WHAT IS THE PROJECT METHOD?[1]

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BY WAY OF INTRODUCTION

A teacher in the intermediate grades who wished to teach the geography of the United States in the most effective way seized upon a letter from France received in return for a box of clothing as the means of starting a discussion of human needs. When she asked the children for a decision as to which of the four great needs of the race would be most fruitful for study, the choice fell, as she anticipated, on food. Then ensued a careful limiting and stating of the purpose, namely, to find out where in the United States we obtain our food supply, of what it chiefly consists, and how we get it. The children wrote these aims carefully in their notebooks, and resolved to keep them firmly in mind. Then followed the working out of a plan of procedure, in which all the possible sources of information were canvassed. In the activities which ensued a surprising range of means, from newspapers to mechano sets, was employed, many illustrative objects were constructed, definite progress was made in oral and written language, practice in reading, spelling, and arithmetic was provided, and the school course in geography for the term was fully covered.

An account of this term's work was given by Miss Warren, the teacher in charge, in the *Journal of Educational Method* for September, 1921. In that issue, and in each succeeding one, numerous other accounts of school work more or less like this have appeared. To all the term "project" has been applied. The purpose of the series of informal articles of which this is the first is to consider the ideas for which this term project, or more exactly Project Method, stands, why these ideas are important in education, and how they may sanely be applied to teaching and supervision under conditions as they actually exist. Those who are interested may extend the studies by means of the bibliographical notes which will from time to time be supplied. Questions concerning the issues raised will be welcome and will be

[1] All rights reserved by the author.

answered as fully as may be possible under the circumstances.

VARIOUS USES OF THE TERM PROJECT METHOD

Advance in education depends upon the development of fruitful ideas. Without a standard of reference and the impelling force of an ideal, teaching would become static. Our day has seen a remarkable growth in fruitful ideas; witness the notion that the life of children should be regarded as real life, that provision must be made for individual differences, that there must be greater economy of time in education, that better school buildings must be erected, and that educational opportunity should be equalized. In the field of method came apperception, self-activity, interest, the Herbartian formula, teaching how to study, "motivation," and the "problem attack." More recently writers on education have used the term project and finally Project Method.

As usual the latest arrival has created something of a commotion. Is this something new or merely a new name for what good teachers have always done? Is it, after all, really anything more than problem solving? Why call it a *method?* Why not merely a particular kind of unit or subject matter to vary the organization of class work and add to question, topic, chapter, and the rest a new and more tangible type of assignment? Why not accept the dictionary definition (one of several) and use the term when we wish to speak of children's planning practical activities? (Everybody will agree at once on what a practical activity is.) Why, indeed, use the term at all, since it merely serves to create confusion? At any rate, let us avoid the word method. Projects, yes, we should use them as a means of teaching—"teaching by projects"—but method is too abstract a term. Let us have *methods* instead. Thus and much more in the educational press.

Meanwhile the popular magazines for teachers find the Project Method a thing to conjure with. Numberless plans for "projects" appear. The textbook advertiser follows suit. He is sure that his latest publication is the first in its field to embody and exemplify the Project Method. "Buy and be up to date, in the swim, as progressive as they make 'em!" Nor are the expositors wanting. At least five books bearing the name have appeared and others are announced, to say nothing of pamphlets. Everybody's doing it. Can we join in and retain our dignity? It's an open question.

IMPORTANCE OF PHILOSOPHY OF METHOD

Yet the cause is a worthy one. Nothing will do more to organize our educational practices healthfully and save us from fads and mal-practice than a sound philosophy of method, a central unifying conception of the process of education. Project Method, properly interpreted is capable of making a large contribution to that end, for it may easily unite all those factors of learning and teaching which are involved in the *purposeful* experiences of the school. To the extent that desirable changes in human beings may be brought about through the willing and more or less

intelligent pursuit of ends, to that extent Project Method may become an inclusive concept or guiding principle.

WHAT PROJECT METHOD SHOULD BE TAKEN TO MEAN

And here is the first of many stumbling blocks for the unthinking or the unwary. The Project Method is first of all a method of learning. It is a name for what happens when an individual, or a group, sets about accomplishing a purpose and in carrying it out brings about changes in his (or their) knowledges, skills, habits, or attitudes. If the undertaking is worthy and the changes desirable, we call the activity educative, in the narrower and better sense of that word. All should recognize, however, that thieves become clever through attempting and carrying out projects and that it is their success which confirms them in their evil occupations. The Serpent is said to have had a project in the Garden, hence all our woe!

Life itself is full of projects. The moment we face any situation to some degree unwonted, we have the need of making a conscious adjustment and do so with more or less of intelligence, more or less of satisfaction or dissatisfaction, and more or less of perception of what we did, why we did it, whether it succeeded or failed, and the reason for this. When I was a boy, I lived on the farm and in the midst of emergencies. On one occasion a hind wheel of the wagon gave way miles from home or the nearest shop. Fortunately the wagon box was empty. We fell back on the Indian method, secured a pole, placed it under the axle, fastened one end under the wagon, permitted the other to drag on the ground, and so proceeded homeward. The difficulty was overcome, and I personally learned to some extent how to meet that emergency as well as any similar one.

IMPORTANCE OF BASIC EXPERIENCE

Those who have a sufficient basis in their own experience will know quite well what I mean by my illustration and will have their own tendencies to act in this fashion strengthened by my report. Others will have only a vague impression, which will probably fail to come to their minds in case of need. Certainly they will do some blundering in trying to carry out the plan. Vicarious experience will be pretty feeble for such of my readers as have led a sheltered urban life. Basic learning is of course first-hand, and, as we shall see further on, the project idea seems likely to prove salutary as an influence making for a less bookish, abstract, formal, and temporary learning than is now quite too common in American schools. Recitation from the books goes on, examinations are held, but what often seem, in view of the time consumed, pitifully inadequate changes in human nature take place. No wonder a New England college president remarked, "When I was a boy I had to go to school only three months in the year. All the rest of the time I could stay at home and get my education." Of the typical New England home and school of his boyhood he might well say that.

METHODS OR METHOD?

Projects in life, yes, and even projects

in school, but Project Method! That is an educational term and at once raises the question, "What does it mean? The Formal Steps we know, Drill we know, Supervised Study, Socialized Recitation, Inductive Method, Motivation, Thought Question, Laboratory Work, and many more. How will a recitation conducted by this new method differ from the methods we already employ?" Just there lies the difficulty. These so-called "methods" are procedures to be employed; the Project Method is really a principle to be applied. As such it is far more inclusive than any of them, more difficult to grasp, and infinitely more far-reaching in its possibilities.

IMPLICATIONS OF THIS INTERPRETATION

This suggests, first of all, the acceptance of the idea that a very large part of our fruitful experience in life is of the purposeful type. We change ourselves very largely in the pursuit of ends. In the second place, it means attempting, therefore, to provide a large number of opportunities for the most educative kinds of purposeful activities in school. This affects in turn our notions of what children should be learning, of the kind of teacher we want, the kind of course of study she ought to have in hand, how this should be made, our choice and use of textbooks, our specifications for buildings and equipment, our methods of supervision, testing, and promotion, as well as our relations with the parents, to say nothing of the janitor. Aims, subject matter, activities of pupils and teachers, measures of results—all of these are passed in review and all are evaluated afresh in the light of this far-reaching conception of life and learning.

Note how the attention now becomes focussed upon the activities of the children rather than those of the teacher. For many a year we have considered with painful seriousness "How to conduct the recitation," forgetting that the nearest counterpart of the recitation outside the school was perhaps a trial in court or it may be a sermon or a lecture. The school is the child's club and his workshop, his little commonwealth, his philanthropic society, and in a sense his family. He is entitled to it. It makes up a large part of his world. He *lives* in it. If he lives fully and richly, he will compass a large part of the, to him, potential world, and will find the transition easy when he leaves it behind, to depend for the remainder of his brief span upon the other institutions which the adults of the community claim as peculiarly their own. Why perpetuate the sham doctrine of a merely formal preparation for life? The school *is* life, or should be.

Very well, then, the Project Method means providing opportunity for children to engage in living, in productive, worth-while enterprises—worth-while for *them*—and in guiding and assisting them to *participate* in these enterprises so as to reap to the full the possible benefits.

Why limit our conceptions of enterprise to the merely objective? Are there no forays of the mind? Whatever one may purpose he may at least *project*, whether it be to make a table, grow a corn crop, or find a reason. When you prescribe limits, you beg the question. You can at least set the stage for pur-

posing and provide stimulus. Having done your honest best, leave the remainder to the Almighty!

A POINT OF VIEW, NOT A TECHNIQUE

The Project Method, then, is a point of view rather than a procedure. It doesn't lend itself to direction by rule of thumb. "Exhibits" of it may be misleading—as indeed they usually are. One doesn't pick it up by imitation; he must have a philosophy, and, for that matter, some knowledge of modern psychology and of human engineering in a democratic society as well. There is as yet no easily communicable technique. There can be no recipes. But a number profess to have found new light which somehow makes clearer the path. The new approach to the children arouses more satisfactory response. The pupils take more responsibility. They volunteer. They coöperate. They regard the business of the school as the "real thing," much as they do their out-of-school affairs. They exhibit unexpected practical wisdom and power of self-direction. They grow to an unwonted degree in ability to handle the school tasks. And when the most severe tests of knowledge and skill are applied, behold Ben Adhem's name leads all the rest.

"But haven't 'good' teachers always used the Project Method without knowing it?" you shall say. At all events they ought now, like Molière's physician who spoke prose, to be very happy on finding it out. Possibly some of the more concrete accounts of what is going on, which succeeding numbers in this series of articles will present, may help to answer the question.

BIBLIOGRAPHICAL NOTE

Those who wish to follow up the suggestions made in this article should read and reread Professor Kilpatrick's brief exposition in the pamphlet called *The Project Method*, published by Teachers College; also his series of articles on Method in Volume I of this Journal, and the symposium on the "Dangers and Difficulties of the Projects Method" in the *Teachers College Record* for September, 1921. A contrasting earlier use of the term project may be found in *School and Society* for September 16, 1916, from the pen of Professor Snedden. Two explanations of the development of the conception may be read in Stockton's *Project Work in Education* and Owen's article in the *Journal of Educational Method* for January, 1922. A summary of Stockton's account appeared in the *Journal of the National Education Association* for May, 1922. Among those who seem to insist on using the term project to refer to procedures rather than to principles are Professors Horn, Charters, Parker, and the brothers Wilson. Their contentions may be examined in the *Educational Review* for February, 1922, the *Journal of the National Education Association* for January, 1922, the *Elementary School Journal* for January and February, 1922, and a pamphlet to be obtained from Houghton, Mifflin and Company, respectively. The books referred to in the article are Branom's *Project Method in Education*, Stevenson's *Project Method of Teaching*, Charles McMurry's *Teaching by Projects*, Stockton as above,

and Wells's *A Project Curriculum*. The last more nearly coincides with the views expressed in this article than either of the others. Bonser's *Elementary School Curriculum* is a moderate and comprehensive application of the idea to the several subjects of the elementary school. Lull and Wilson have attempted a similar task in their *Redirection of High School Instruction*, but they adopt a narrower interpretation of Project Method.

BROADENING THE HORIZON FOR THE CHILD OF SEVEN

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We have come to realize the significance of real experiences in the social adjustment of children. What these experiences shall be is a problem worth investigating. The following characteristics must be considered in guiding the selection of any experiences for the seven-year-old: the child's narrow social world, his limited power to analyze new situations, his feeble power to connect new experiences with what he already knows; and on the positive side, his ability to reconstruct or re-live experiences in imaginative play and expressional activities.

The activities here described are reported because they demonstrated in practice their adaptation to the particular stage of social and mental development of the children participating.

The whole subject of supplying food to people in the city of New York was brought to the attention of one group of second grade children through the discussion of their summer experiences in the country, where all had seen vegetable gardens and farm animals. To show the intermediate step of supplying food to the people of the city of New York, a trip to the wholesale district was planned. To guide their discussion preceding the trip, the children were asked the following questions:

"What did you have to eat this summer that was fresh from the garden or was raised on a farm near you?" and "Now that most of us have returned to the city to live, where does our food come from?" To the latter question, one replied, "From the grocer, the butcher, and the market." "Where do you suppose the grocers get it?" The children glibly answered, "Why, from the farmer, of course." "But," we said, "the farmer doesn't come to the grocery nor does the grocer go to the farm."

The children helped formulate certain questions to guide their observations on the trip, as, "How was food brought there?" "How was it packed?" "How was it kept till needed?" "How was it taken away?"

The wholesale market near West 14th Street, New York, is well worth anyone's seeing on a busy morning. These Second Graders revelled in the hustle and bustle of it all. A number of grown people accompanied the party of twenty children and helped them in-

terpret what they saw. The real sights began as the party crossed 14th Street near Armour's cold storage plant. A refrigerator car drawn by an electric engine stopped right there in the street, the thick door opened, and meat began to emerge. The men lifted the heavy pieces and shifted them to hooks on moving chains. Huge animals halved and quartered were transferred into the cold rooms to await orders from the wholesale butchers about town. White clothed men with order books seemed extremely busy.

One of the visiting party inquired where a truck load of meat was going. "To a hotel supply market," was the response. That particular spot was too busy for twenty eager little people to linger long. They stayed long enough, however, to see the men unload the trains and load the trucks. Some of the boys, too, found time to stoop down to see just how the wheels were fastened to the engines. Others marveled at the animals with the skin still on, or tried to recognize the familiar shapes of pigs, lambs, and calves of their summer experience.

The children moved further on down the block and a less busy foreman cordially invited them into the cold room where the meat was kept. There were rows and rows of it. The children were also duly impressed with the snow on the pipes, and scraped some of it off. Coming out of this place they next visited the cold storage plant which supplies the whole district with the cold water or brine that runs through the pipes into most of the buildings of the neighborhood. The process of making this water cold enough was too difficult for these children to understand, but the rooms in the cold storage building were more readily appreciated. There were lettuce rooms, egg rooms, apple and pear rooms, and meat rooms. The children buttoned their coats to the chin and were glad it wasn't as cold as that outdoors. The visit was brief, but long enough for a vivid impression.

"Look!" exclaimed a child, when they were again on the street, and there through a rift in the traffic could be seen the tall spars and masts of vessels above the dock buildings across the street. Ships, too, were bringing and taking food. A mounted policeman waved back the busy traffic for the children's safe passage. They were much interested in the horseman who preceded the trains, waving a red flag as he rode down the street.

Just south of the Cunard Docks is a street where all the fowls of the world seem to congregate. Here is a child's description of what he termed "The Chicken, Goose, and Turkey Street." It was dictated after he returned to the school, as were other descriptions of different scenes visited:

THE CHICKEN, GOOSE, AND TURKEY STREET

We saw about a thousand chickens. No, more than that. There must have been at least three or four thousand. They were very crowded in many boxes. The boxes were loaded on trucks, on the streets, on the trains, on wagons, in the markets and in the warehouses. The chickens were alive and were eating from trays on the outside of the boxes. We saw the boxes being unloaded into the poultry houses. The chickens looked very uncomfortable. They pulled down their heads when the boxes slid over each other. These chickens came from the country. They came on trains. Some had traveled three or four days on the trains.

THE TRAINS [1]

We saw trains going through the city streets. We saw yellow ones, red ones, and black ones with red and black engines. The trains stopped at every warehouse. We saw lots of them.

There were chicken trains, meat trains, and fruit trains, and vegetable trains. The refrigerator cars had doors six inches thick. One train had dressed chickens packed in barrels. We saw cars loaded with fresh hams. We saw big boxes being taken off the trains. The men were very busy unloading the cars.

Leaving the "Poultry Thoroughfare" and the busy trainmen, the party walked down the open square where a few farmers had their wagons and were selling their produce at retail.

Not long after this the same grade visited a truck farm to see where some of this food came from. Preparations for the trip consisted of a discussion in which the following pertinent questions arose: "Where do the farmers come from who stand there in the square?" "How do their farms look at this season?" "How much should the farmer have of everything to make it worth while to sell?" "What tools does he use?" and "How does he prepare his ground for winter?"

At the farm the children's attention had been called to the fact that only a few of the vegetables were still in the ground. It was early in November. The natural question to ask was, "How are the people to be fed during the winter unless some of the food were put away so it would not spoil?" Various methods of preserving foods were discussed. The class canned some food, and dried apples and otherwise preserved foods for winter. Last year's class had buried some root vegetables. When they dug them up in February they were found to be almost as fresh as the day they were buried. The children visited one of the neighborhood groceries, where they were much impressed by the variety and kinds of canned goods. They also learned what foods were raised near New York, which ones came from distant farms, and which ones came from foreign countries.

Had these experiences been left as isolated bits, the work would have been of little value. By linking the experiences together, new meanings were revealed. Discussions of the trips both before and afterward, reconstruction of experiences in stores, pictures, and toy markets gave meaning to those relationships which otherwise would have been vaguely felt or undefined.

After the trip to the wholesale market and to the farm, the whole scheme was laid out upon the schoolroom floor. Here, for instance, is the wholesale district with warehouses made of blocks and boxes, and its miniature railroads and trucks. The "Chicken Street" is near the wharves, where a toy barge brings the freight cars across the river. Here is the open square with the farmers' wagons. Then, quite a distance off, on Long Island, is the truck farm with the farmer just starting to town. Of course there is the bridge where he must cross the East River. At another side of the room is a grocery store and a loaded truck arriving with fresh meat from the wholesale market. There is also in the room a doll house and, of course, the dolls will have to go to the store to buy, or else

[1] Group dictation—various individuals contributing to the description.

drive down in their cars to the farmers in the square. All the parts fit together; and the children understand what it is all about. What before was to them confusion is now everyday life and real life at that.

But there was one difficulty: what should be done with the trains?

"I don't see," said one of the children, "how the trains get there in the city streets. Where did they come from and where will they go when they are empty?" Of course they can't just switch about the city streets. The children had noticed that they were all bringing in food and unloading; and not one train did they see being loaded again. They went away from the warehouse empty, and full ones took their places. To establish the connecting link a later trip was made to a ferry landing, to see trains ferried across the river.

Laying out the miniature city paved the way for simple maps, which the children helped to draw on the floor to show their routes to the markets, the ferry landing, the bridge they crossed, the truck farm on Long Island, the grocery they visited to see the canned goods, and some factories they had noticed on the way. A large map of New York was hung up and some places noted.

Seven-year-old children's questions and responses following the trips are good indications of their broadening point of view. Coming back from Long Island, I pointed out several factories to the children. One of the girls asked, "Why does anyone have farms? They truly, truly don't need them; they could make the food in the factories. Are there factories all over the world in all the cities? I never noticed them before. Why are there so many in New York?" She was apparently ready to visit a factory. The choice of a factory is important, as complicated processes must be avoided. A large bakery or a canning factory will be worth visiting at this age and in this connection.

That the children of the second grade grasped what they saw on their excursions was shown by their graphic pictures, their dictated stories, and their questions. That it had aroused their keen interest was manifested by their spontaneous enjoyment in dramatizing the scenes. The very day following their trip, toy trucks and a train and some tracks were brought to school, and the whole class joined in building the market. Dramatization aided in making the connections between the different places visited and the different kinds of work.

The average little child takes for granted that the butcher will serve him with meat, the grocer will serve him with vegetables and fruit, and that anything may be bought at a store. He will probably not even wonder where the butcher or the grocer gets these things. The boy or girl of seven needs his world analyzed and explained. He has a strong interest in the practical activities of adults. His narrow social consciousness is gradually expanding and his interests may be led to include not only his family but his neighborhood, his country, and eventually as he grows older we hope his interests may be world wide.

His power to analyze situations is weak at the age of seven, and he needs

to have common objects pointed out and explained and their qualities talked about. He is very conscious of sounds, of smells, of moving things. To have the endless traffic of the streets explained takes away its overpowering confusion. Prior to the age of eight most children see things as unrelated episodes. One great art in teaching is that of finding links and connections between isolated facts, and leading the children to see how the new thing is related to what they already know. That this work is suitable for second grade children was evinced by the different reactions of individual children. Some of the six-year-olds assimilated more slowly and made connections more slowly. Three of the youngest needed special help in understanding the new experiences.

Six children voluntarily painted pictures expressing things they saw on their trips. Fourteen children showed especially good thinking in connecting one experience with another. They built what was needed and were able to tell connected stories. That they too were stretching upward in their thinking was evident when different ones repeatedly made the trains hit or miss over the floor and put terminal stations in the wrong places. There were others who couldn't see till it was pointed out to them why the house with its family was part of the story. Then, too, the farm out West was omitted entirely until after the visits to the grocery and freight pier. There the children saw foods that had come from Minnesota and California. The trip to the freight pier was a difficult one to understand until it was discussed in the group afterward. Where those trains had come from was very vague in the children's minds, but all were immensely interested in the trains themselves, in the way they were loaded, and the way they were ferried across the river. The ferryboat trip was profitable, too, as the children saw that the trains came from the New Jersey side. This last trip was entered upon with much keener zest and interest in observing all that they passed on the way—public buildings, factories, traffic, and transportation. The full significance of this trip to the freight pier was not grasped until it was built up in more detail as a separate thing and later its connection with the rest was shown.

The excursions with which the children seemed to have no difficulty were the ones to the truck farm and cold storage buildings. The purpose of these two things was quite obvious. That the grocery had a great variety of foods that had come from near and far was quite clear too. The main difficulty was how to make the connection between the trains here and their distant starting places. The children's world easily includes their city but is vague beyond that, except for isolated travel experiences.

The difficulties show that the intellectual side is none too easy for this grade, and since by working it out together they do grasp most of it, it is not too difficult. Furthermore, they are growing in a technique of method of understanding their environment.

These trips furnished such a wealth of experiences that there was enough to write about, read about, and talk about for a long time to come. There were

many leads too, growing out into the study of certain kinds of food, such as wheat, its cultivation, milling, and uses to us as food; the study of foreign products—dates, bananas, cocoanuts, chocolate, etc.—and the life of the countries from which they come.

The three characteristics of children in this stage of development which were mentioned in the beginning have been constantly in the teacher's mind: (a) the child's narrow social world; (b) his limited power to analyze new situations; (c) his feeble power to connect new experiences in imaginative play and expressional activities.

Through the preparation for the trips mentioned specifically in this study, the experiences themselves and living them again in pictures, story, and play, these second grade children broadened their social world. The experiences gained during the summer and on the farm were linked up with the activities and commodities of city life. In making their toy village and maps they analyzed their new knowledge and made it their own.

Surely we can find experiences which take into account the child's ability, that we may guide him wisely and free him from the limitations of his narrow world.

SOME REACTIONS TO STANDARDIZED TESTS

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Principal of the Alexander Dallas Bache Public School, Philadelphia, Pennsylvania

The training of teachers in the service is a problem in education second only in importance to the preparation of teachers in normal schools. The more alive any science becomes, the more quickly will the initial training of its devotees wear out or become antiquated. Pedagogy has been traveling on a fast express train in recent years. Those teachers who linger upon the road after graduation soon become separated from the more progressive minds by a constantly increasing distance. All teachers may be grouped in three classes: first, those whose alert spirit led them to board the train of progressive thought immediately after completing the normal course; second, those who see the trains pass on and scoff at the travelers as faddists; and third, those who early built for themselves safe retreats, well sheltered from the noise and worry of rapid transit. A principal's most serious problem of supervision is to determine how best to guide the enthusiasm of the first, to convert the scorn of the second, and to disturb the slumbers of the third.

The introduction of standard measurements into a school tests the ability of the principal quite as certainly as it measures that of the pupils. In our city schools there had been considerable testing conducted by the State Survey Committee during 1921. Previous to that year there had also been many tests given by the principals under the direction of the Department of Superintendence to determine the efficiency of the new courses of study. All of the teachers had had an opportunity to see the tests administered, and all had

more or less cheerfully assisted with the scoring. The results had been tabulated and discussed in our faculty meetings. The teachers had also participated in faculty discussions of the theory of standardized measurements generally.

An opportunity to discover how certain members of the faculty reacted individually to the subject presented itself at the mid-year reorganization in February, 1922. It was found necessary to combine in one class a 7B and an 8A grade. In the previous term there had been two departmental groups, one of four seventh grades and one of three eighth grades. The numbers had increased so as to require one unit group consisting of two 8B classes, one 8A class, and one class of 8A and 7B combined; also a second unit made up of two 7B classes and two 7A classes.

In former years we had attempted to arrange homogeneous groups by depending solely upon the teachers' combined ratings. This term we employed the Haggerty Intelligence Test to all 7B and 8A pupils. The lists were then arranged in the order of the Intelligence Quotients. Those obtaining the highest quotients were placed in the combined grade, since it was concluded that these pupils would be more self-directive than the others could be, and that the former would consequently suffer least through sharing the teachers' attention with another group.

After three months had passed, the principal sent the following questionnaire to the eight teachers involved:

I. How do the 8A pupils of room 24 (the mixed class) compare with those of room 27 (all 8A)? or
How do the 7B pupils of room 24 compare with those of rooms 22 and 23 (all 7B)?
II. In what respects do they appear to differ?
III. How do you account for the difference?
IV. How do you plan to provide for this difference?
V. What do you consider the advantages of having homogeneous grouping?
VI. How does the intelligence score correlate with the report scores for April?

The answers register quite plainly the value of the training of teachers in the service. All of the teachers in question had graduated years before standard tests had become an educational factor. The groups may be designated as follows:

GRADE VIII

Teacher	*Main Branches*	*Post Normal Training*
A	Mathematics	University—A. B.
B	English	University—Ped. B.
C	History	University—Extramural
D	Geography	University—Extramural

GRADE VII

E	Geography	University—Extramural
F	Mathematics	University—Extramural
G	English	No intensive training
H	History	No intensive training

QUESTIONS I AND II

The answers were substantially the same, showing that all teachers recognized the status of the various classes. The pupils were considered "more alert," "better able to grasp ideas quickly," "to take more interest in their work," "mentally superior," "more capable," "to have more natural ability," etc.

QUESTION III

The variation in opinion due to varying degrees of training becomes evident in the following answers:

A. Seems to be a difference in mental make-up.

B. Mind set, due to heredity and modified by environment.
C. Some have reached the limit of capacity for learning.
D. Many in room 24 are younger children, showing that their progress through school has been rapid (more intelligent children).
E. The pupils of 22 are not of the level of intelligence reached by 23 and therefore will never be able to do as much good work.
F. 1. Mental capacity. 2. Method of grading. 3. Methods in teaching. 4. Lack of drill.
G. Inability. Inattention. Separation from high grade pupils.
H. Indifference to study, and too many outside interests.

QUESTION IV

Here again the answers show a wide divergence.

A. Room 24 is given problems which involve same principles as those given to 27, but require keener perception to see how those principles apply.
B. Detailed information to superior group; enrichment of content. Just fundamental processes for slower group.
C. More aid and stimulus to slow ones. Outside problems and advanced work for quicker ones.
D. Make work as interesting as possible for slower groups, though progress will not be so rapid.
E. Slow group can get the minimum essentials. That is all I present and expect.
F. Make the work as simple as possible for slow group. Drill upon weak points. Give more problems, and more difficult ones to rapid group. Try to arouse interest of slow group by variety in method, games, competition.
G. Not advancing those who do not do the work.
H. Those who cannot do the work because of inattention and lack of study should not be advanced.

QUESTION V

The widest variation of opinion is here expressed.

A. In the keener classes there is much more competition and more interest resulting. Pupils work with those of equal capacity in both groups.
B. Easier and better teaching. Laws of satisfaction—individuals more capable of competing with those of equal or approximate ability.
C. Slow ones not discouraged but able to keep up with class.
D. Teaching easier and better as it does not have to be adapted to so many different types.
E. Equal opportunities and possibility for class rivalry. Amount of work can be better determined as abilities are more nearly alike.
F. Each class advances more uniformly, and teacher can adapt her methods accordingly, knowing more about the ability of her group.
G. Advantage to brighter class. Disadvantage to dull class.
H. There is no advantage when one class is made up of those of both poor ability and poor conduct. Those in it lack the incentive of coming in contact with brighter minds.

QUESTION VI

A very satisfactory result of the classification was shown in the percentage of pupils receiving 8 or 9 on their reports:

Grade 8

Room 24 (highest I. Q.)	40%
Room 27 (lowest I. Q.)	20%

Grade 7

Room 24 (highest I. Q.)	73%
Room 23 (next I. Q.)	46%
Room 22 (lowest I. Q.)	17%

The June promotions have endorsed the value of the I. Q. grouping, the total percentage of promotions being unusually high. Six of the eight teachers declare their satisfaction with the plan of homogeneous classification and a desire to repeat this method of organization.

THE CLEARING HOUSE

To the Editor of the Journal of Educational Method:

I am much interested in "The Project Method in Normal Schools" appearing in your last *Journal.*

With respect to the "various difficulties arising," one which seems significant and important to me is entirely omitted. Here is the form in which the writer recently met it. A certain excellent candidate was being considered by a normal school president for a position in his training school. The candidate was a superior woman, excellently prepared both in education and experience. She had used the project method in the elementary school with marked success. And it was this fact that caused him to hesitate in employing her.

"We are preparing teachers for the schools of the state," he said. "The schools are not using the project method. The teachers must be prepared in the use of methods which the schools employ and which will be required of them later. Until the schools of the state demand the project method and open the way for the use of projects, the normal schools must move cautiously."

The writer stated the issue, "Is the normal school always to follow and never to lead? Is it not possible to prepare the young teacher to succeed in the schools as she finds them and move as opportunity affords toward that which they ought to be?" But the president was unconvinced. Perhaps he was both right and wrong. Let us state more fully his point of view.

It is quite obvious, he will say, that the novitiate in the professional school should be trained toward typical school situations rather than away from them. The training school must be sufficiently typical of public school procedure to make the student teacher feel at home when she assumes full responsibility as a classroom teacher in the "system." The situation will be new to her at best. Adjustments must be made even under the most favorable circumstances. Therefore, since she is in the professional school so short a time, it is impossible to do more than to orient her into the existing order.

The Normal School should demonstrate efficiently what is already current in practice. It should not experiment. It should even be cautious in accepting radical changes in method and curricula until they have become justified through wide current practice, thus making a demand for the new type of instruction. The experiment school has its place. It is quite as important in its way as the normal school. But it has a distinct function. It is maintained in connection with the normal school; care must be taken not to obscure the function of the latter.

Perhaps the writer met an isolated case, but there are indications that this theory of the function of the normal school is not uncommon. It may not be held so consciously as a theory by many administrators, but it is certainly not seldom witnessed in practice. Do we not confront here one of the greatest single obstacles to the introduction of the project method in the normal schools?

What are the considerations that may be urged for a different policy? This short communication affords opportunity only for a paragraph. The above type of professional school produces mere imitators. It magnifies discipleship and minimizes originality. We must promote creative

work, independent use of material, and resourcefulness. We must arouse invention and encourage intelligent and fearless criticism. The normal schools should be laboratories as well as training schools. The work of the teacher can be relieved of its dull routine only as she cultivates initiative, variety, and independence.

The administrator with this new conception does not have an easy task. Serious problems confront him. How far shall research be carried in the normal school? How shall he avoid the danger of sending out into the schools a "mere callow brood of experimenters"? Is it possible to secure adequate funds for such a program as the above remarks suggest? The progressive administrator is himself entering upon something of an experiment in administration. But here and there are courageous men who are accepting the challenge which the times afford, and they are blazing the trail into new frontiers.

Sincerely yours,
WALTER D. AGNEW.

SPELLING

The primary aim in the upper grades is to develop in the children a *spelling consciousness.* With children in these grades this objective is best reached through the visual sense, but an approach is also made through auditory and motor activity, for the children hear, see, pronounce, and write each word studied.

Another important aim is the *economy of time.* Why waste time on words the children already know? To effect this aim a preliminary test is given on the new words each day, and only those words with which the children have difficulty are taught.

An effort is made to teach only those words which occur naturally in the pursuance of the school arts and are needed in written work, for the true test of good spelling is its use in manuscript, and obviously children need to spell only those words which occur in their writing vocabulary.

Dictionary definitions are not required for words already familiar, but pupils are encouraged to use this source for spellings and meanings. The latter are developed chiefly through the context or in sentences about correlated subject matter.

Only five new words are taught each day. Wilson says, "In spelling we have been hopelessly burdening the child in our attempts to teach from 10,000 to 15,000 words, while the outside limit of an eighth grade writing vocabulary is less than 5,000 words." The words already learned are frequently reviewed in tests, matches, and games.

HOW TO TEACH SPELLING

Method

1. A preliminary test is given on the five new words, the meanings of which were developed the preceding day. The children then exchange and correct papers.

2. Those who miss no words in this test study something else or read at their seats.

3. Only those who miss words study spelling, and each studies only the words he misses. This effects economy of time.

4. The teacher writes the first word on the board in syllables. Those who missed this word come to the front.

5. The teacher pronounces the word distinctly in syllables.

6. The children pronounce and spell the word in syllables.

7. The teacher erases, writes the word as a whole, and spells it orally.

8. Children pronounce again and spell the word orally.

9. Pupils close their eyes and visualize the word.

10. They look at it again.

11. The word is erased and pupils spell again.

12. Pupils write the word.

Thus each pupil has seen, heard, pronounced, and written the word.

13. The same method is used for each word.

14. After the lesson has been taught, all the children concentrate for a few minutes on all the words.

15. They then write ten words, five old and five new.

16. They exchange and correct papers.

17. The meanings of the next day's words are developed.

18. The teacher has previously written on the board five sentences using the new words. These sentences deal with subject matter used in other classes, and whenever possible the meaning is developed during some other recitation. Example recently placed on board:

19. James stands and reads sentence. He quickly calls on Mary for an original sentence. Mary says, "Agriculture cannot easily be carried on in mountainous regions." Mary calls on Katie for another sentence.

20. All five words are developed in a similar way.

21. Each child keeps a list of the words he misses for his own benefit in review.

22. A twenty word test is given each week, and a fifty word test each five weeks. Spelling matches, reviews, etc. stimulate interest.

The time given to spelling each day is fifteen minutes.

R. M. Adams,
E. A. Hotchkiss,
Teachers Training School,
Kansas City, Mo.

AS REPORTED

THE SUMMER MEETING OF THE NATIONAL CONFERENCE

The National Conference on Educational Method accepted the invitation of the N. E. A. to arrange a special session in connection with its Boston meeting. The program was given in the fine auditorium of the Boston Conservatory of Music. About 250 persons were present. In the absence of the President, Miss Margaret Noonan of New York University, the meeting was presided over by the Secretary-Treasurer, Professor Hosic of Teachers College, Columbia University.

The first paper was presented by Miss Mary A. S. Mugan, assistant superintendent of schools in Fall River, Massachusetts. Speaking on some practical problems in supervision, Miss Mugan first discussed demands of the times upon teachers and the reaction of the teachers to these demands. Teachers feel the necessity of guidance and welcome supervision if it is of a vital type. Such supervision helps teachers to discover their potentialities and the alluring possibilities in the day's work. This paper stressed the need for coöperation and gave some excellent illustrations of coöperative supervision in Fall River. Problems in the teaching of English, for example, have been solved through experiment carried on by teachers with the support of the supervisors. The result of such coöperation is the elimination of fears, disquietude, and unintelligent routine through self-realization that leads to growth on the part of both teachers and pupils.

Professor Harold O. Rugg of the Lincoln School, Teachers College, followed with an address on the new curricula in the social

studies. He pointed out that the courses of study in geography, history, and civics are at present the work of tradition. We need in their places courses that have been scientifically determined. The precedent for this may be found in such work as that of himself and Mr. Clark in the development of a new curriculum in mathematics for the Junior High School. He thinks the teaching of these subjects at present is largely ineffective. The chief reason is that the material is not at hand with which to accomplish the purposes which are in view. He then described the method of investigation with which a group of persons in the Lincoln School are attempting to arrive at the social problems which children and young people should learn how to solve. As matters stand, he thinks children receive a wholly inadequate training in problem-solving. They must have a long and rigorous discipline in the handling of problems for whose solution adequate reading matter has been brought together. This is being done by himself and his helpers, who are gathering and rewriting the material largely in the form of complete episodes, often accompanied by pictures which would be interesting to children, and which should be read at length. The material will be published in pamphlet form in limited editions to be tried out in certain selected schools in order to determine its adaptability to the purposes in view.

The remainder of the program was devoted to the presentation of accounts of various activities in two of the schools of Boston, provided by Miss Rose Carrigan, Principal of the Shurtleff School. All of the projects described were extra-curricular in character. Miss Carrigan explained that in developing the project idea in schools of the traditional type it is probably best to begin with activities that lie outside of the prescribed routine. Both the boys and the girls made an excellent impression on the audience. The effect of the training which they had received in schools in which they had made contributions to the work of the assemblies was very evident. They had learned how to address an audience, not merely recite from memory. Among the activities described were those of determining what to charge for various articles in the lunchroom, arranging to handle the milk supply, and the weaving of rugs. The children presented pictures and other concrete illustrations of their work, and at the close of the meeting explained these at greater length to numerous interested inquirers.

This smaller meeting in a room in which the speakers could easily be heard was a welcome relief to many who had been repeatedly disappointed in Mechanics' Hall, in which only the best public speakers could make themselves heard.

NATIONAL COUNCIL OF PRIMARY EDUCATION IN BOSTON

The National Council of Primary Education held its annual luncheon in connection with the summer meeting of the N. E. A., in Boston, July 5, 1922. Through the efforts of Miss Wilde, of Cleveland and Boston, and Miss Gecks, of St. Louis, a goodly company gathered in the beautiful Egyptian room of the Brunswick Hotel. In the absence of the president, Miss Theda Gildemeister, of Winona, Minn., presided. At the instance of Miss Ada Van Stone Harris, of Pittsburgh, a telegram was sent to Miss Victoria Dobbs, the Chairman of the Council, expressing the general regret on account of her absence, and wishing her a happy vacation. Merry yells and songs from individual tables and by the group as a whole expressed the appreciation of those present for the work which Miss Dobbs is doing in the Council and for the efforts of those who arranged the luncheon.

The speakers were Professor Hosic, of Teachers College, Columbia University,

Miss Lucy Wheelock of Boston, representing the Kindergarten Department of the N. E. A., and Professor Wilde of Boston University. Though the luncheon was not scheduled on the official programs of the N. E. A., more than a hundred found their way to the meeting-place, and many declared that the occasion was one of the most helpful and inspiring which the Council has provided.

Professor Hosic's remarks were directed to a constructive program for the Primary Council. He urged the importance of a larger background, especially in the history of American education, upon which primary teachers may project the new ideas of method. The so-called Project Method, for example, has enormous possibilities for good if it is properly interpreted. It is, in fact, a kind of synthesis of educational concepts which have been developed one by one from Rousseau to the present time. In practice, however, it often becomes a mere formal device or a procedure. The Primary Council can assist in bringing about a saner attitude toward this really fruitful and productive idea. They can help to do, in a word, for the project idea what the more advanced kindergarten workers did for the Froebelian theory, which came to America in a highly garbled and formal interpretation.

The speaker congratulated the Council on the fact that it is coöperating closely with the kindergartners' association. Free and constructive activities are taking the place of formal subjects in many primary schools, to the great advantage of the little children. Probably the most advanced type of education in American schools today is to be found in the work of the best kindergarten and primary teachers. If the Council does nothing more than bring about a wide insistence of these more vital methods, it will have abundantly justified its existence.

Miss Wheelock spoke briefly of the friendly relations existing between the Primary Council and the Kindergarten Union, and declared that their aims, their purposes, and methods are, and ought to be, essentially the same. The closest and most practical relations should therefore be cultivated. No gap should be allowed to appear between the activities of the kindergarten and those of the primary grades. That her sentiments were echoed by those present was evidenced by the fact that nearly all attended the luncheon of the Kindergarten Union the next day.

The program was closed by Dr. Wilde, who spoke briefly of his pleasure in being present and of participating in the enjoyment and profit of the occasion. He was glad that the N. E. A. was holding its meeting in Boston, and particularly grateful for the presence of so many progressive workers in the field of primary education. He congratulated the Council on its record of work done and prophesied a still more creditable future.

EDUCATIONAL METHOD: ITS NATURE AND IMPORTANCE

At a recent meeting of the District Conference of the State Teachers' Association of Virginia, held in Richmond, the following theses were presented and defended. *The Journal of Educational Method* is glad to present them to a larger audience for a wider hearing.

Note. The following outline in the form of statements or theses is not intended to be complete or wholly scientific. It is planned as a guide in the discussion of a relatively difficult problem. It may also give one an opportunity to re-think the whole problem through later with better results than are obtained here. The references below either indirectly or directly furnish much of the material for thought and discussion.

References: Thorndike, *The Psychology of Learning;* Dewey, *Democracy and Education;* Kilpatrick, *The Project Method; Journal of Educational Method*, volume I, nos. 1–7, especially the articles on the *Project* and Dr. Kilpatrick's series on *Method* and *Learning*.

THESES

1. Conditions in the United States since the war present to public education problems greater than those ever confronting any educational system.

2. Any theory of American education which will enable us to solve these problems must accept some such proposition as Dewey's notions that "education is the continuous reconstruction of experience," that it is synonymous with growth.

3. There is demanded now not only a revision of our curricula and a refinement of our aims, but also a determination of the nature and significance of educational method; cf. ancient Sparta, the China of the late nineteenth century, Germany before the war.

4. The conception of method and methods now generally in vogue is too largely that of classroom techniques and devices, simply ways of presenting subject-matter.

5. Educational method in the larger sense involves the method of learning or of human activity; it is the method of the learner rather than that of the teacher.

6. Such a concept must be based on the fundamental laws of psychology, as for example Thorndike's laws of learning; the laws of mind-set, exercise, and effect (or satisfaction).

7. This broader method will include narrow methods and give numerous other values than that of the acquisition of bits of information or skill, *e.g.*, attitudes toward school and life.

8. Perhaps with this concept of method the most common form in which teaching will be cast will be the project, which does away with much of the rigid break between subject-matter and method, and between teaching and learning.

9. Project teaching rightly understood and utilized will give some of the following, and other values: vitalized learning, training in thinking, development of civic habits and ideals.

10. With such a notion of method, together with corresponding adjustments in aim and curricula, it ought to be possible so to organize school education as to make it more like life education and to weave into the very warp and woof of child life the essentials of an education for democratic citizenship.

ESSAY CONTEST OF THE AMERICAN LEGION

It is announced that the period of competition for the prizes offered by the American Legion to the writers of the best essays on the subject "How the American Legion Can Best Serve the Nation" has been extended until October 6. Cash prizes, divided into $750 for the first, $500 for the second, and $250 for the third, are to be used toward scholarships in colleges designated by the winners. In each state there will be a first prize silver medal for the best essay in that state and a bronze medal for the second best. All girls and boys between the ages of 12 and 18 inclusive are eligible to enter the contest. Essays must be not more than 500 words in length. The age of the writer will be taken into consideration. Essays submitted must be received at a place designated by the county superintendent of schools not later than midnight of October 6, 1922. Each contestant is required to sign the following pledge: "I hereby pledge my word of honor that I have written this essay myself. I am — years old."

THE READER'S GUIDE

SIGNIFICANT ARTICLES

EDUCATIONAL DETERMINISM

Those who are interested in following the discussion started by Professor Bagley on the subject of educational determinism through the use of intelligence tests may do so by consulting the following: (1) the original address, which was delivered before the Society of College Teachers of Education in Chicago, February 27, 1922, and was printed in *School and Society* for April 8 and in *Educational Administration and Supervision* for May; (2) Professor Whipple's reply which appeared in *School and Society* for June 3; (3) Professor Bagley's rejoinder to Professor Whipple's reply, in *School and Society* for August 5, and (4) Professor Terman's editorial in the *Journal of Educational Research* for June.

Professor Bagley's main attack was directed at the tendency to assume too much from the results of intelligence tests. He quoted from an article in the *Atlantic Monthly* by Mrs. Cannon and also from Professor Terman's *Measurement of Intelligence* in support of his contentions. He declared that although vertical mental growth may stop, horizontal growth continues, and therefore we are not justified in cutting off any pupil from the widest educational opportunity. Professor Whipple replied that the object of the tests is not to cut off opportunity but to insure to each pupil opportunities suited to his needs. In his rejoinder Professor Bagley first corrected some of the impressions which Professor Whipple obtained from his paper and went on to take issue with the statement that in our present educational system gifted children are given less opportunity to develop than others. Naturally, Professor Terman, having been singled out for special mention, came back vigorously. He charges Professor Bagley with being unwilling to face the facts as they are. He disposes of the reference to horizontal and vertical growth by saying that this distinction was drawn fifteen years ago by Binet and that it is in reality the main argument in favor of a differentiated curriculum. Assertion should not be mistaken for scientific evidence. In any event Professor Bagley is waging a spectacular fight against a straw man, reading meanings into the words of the so-called determinists which they have never intended. Only by the sheerest accident have many of the great leaders of the past been discovered. This is too expensive a process and should be discarded in favor of more effective methods.

INTELLIGENCE TESTS AND HOMOGENEOUS GROUPING

Meanwhile the practice of segregating pupils according to their mental ages continues. In the *Elementary School Journal* for June, 1922, Miss May M. Harper of the McKinley Junior High School, in Xenia, Ohio, reports briefly an experience in homogeneous grouping in that school. At the close of the school year in 1921 those promoted to the eighth grade were divided into three groups on the basis of their scores in the Terman Intelligence Test with consideration also of the judgment of the teachers and school achievement during the year. The seventh grade was classified by means of the Haggerty Test, Delta 2. At the end of two months of school work a second reclassification was made, and a third at the end of four months. It appeared that a surprisingly large number of pupils retained their places in their groups

as originally formed. Miss Harper concludes that the group intelligence rating predicted fairly accurately what the teachers discovered in four months concerning the relative ability of the children to do school work.

TESTING THE TESTS

The example of Detroit in seeking to find out by experiment what the actual value of standard tests is should be followed elsewhere. An example of the work may be found in the *Detroit Journal of Education* for June, 1922. Miss Nila B. Smith reports "An Experiment to Determine the Effectiveness of the Detroit Standard Tests in Reading." These practice tests were used in teaching children how to read. At the beginning of the work the Detroit Vocabulary Test was administered. For each group using practice tests, a controlled group using another method was selected. The results were checked by means of several of the better known reading tests. Those making the experiment feel justified in saying that the purposeful self-teaching method of the Detroit Practice Tests proved itself superior. If this conclusion should be sufficiently supported by additional experiment, the way will have been cleared for a great forward step in the teaching of reading to little children.

PSYCHOLOGY OF PROBLEM SOLVING

The fruits of Professor E. L. Thorndike's research in the Institute at Teachers College are beginning to appear in various educational magazines. The second installment on "Problem Solving" in the *Mathematics Teacher* for May, 1922, is of fairly general interest because of the application which the author makes. He points out that too much value is attached to verbal problems because of the confusion of their value as training with their value as tests and a misunderstanding as to what they test. The ability to organize a set of facts in an equation so as to attain the desired answer is very closely correlated with general intelligence of the scholarly type. It is therefore natural, but unwise, to infer that doing it creates and improves the ability. The educative value of problems depends largely on the genuineness and usefulness of the particular problem solved.

PICTURED KNOWLEDGE

The children, we suspect, will have to contend with their elders for the privilege of being the first to read Compton's *Pictured Encyclopedia*.[1] When the reviewer recalls his own fascination, as a boy, with the first two volumes (all he ever saw) of a standard encyclopedia for adults, he feels safe in prophesying that this latest product of the book-maker's art in the field of encyclopedias for children will prove an unqualified success.

Perhaps the outstanding quality of these books is their vivid appeal to the reader. Illustrations, many of them in color, are scattered throughout, so that if one did no more than look at the pictures and read the legends beneath them, he would have a fair general knowledge of modern civilization. The articles, too, are graphically written and free use has been made of all of the devices known to the printer for catching the eye. And yet a first rapid examination seems to indicate that the facts presented are both accurate and up-to-date.

A very wide range of interests has been kept in mind. There are stories and striking incidents from history, as well as travel talks, directions for sports and games, guide posts to art, literature, and music, and the wonders of science and invention. In fact, this new Encyclopedia will go far to create a new connotation for the word, since it succeeds in being brief without being dull.

[1] Compton's *Pictured Encyclopedia*. Edited by Dr. G. S. Ford with the assistance of 20 departmental editors, 64 contributing editors, and staff. Chicago: F. E. Compton Co., 1922. 7 Vols. (3842 pages) to be followed by index and study guide.

Special commendation is due to the editors and contributors for recognizing that children can make little use of ready-made generalization. What they want is experience and an opportunity to make generalizations for themselves. It is in this respect that teachers, to say nothing of parents, will find these volumes an invaluable asset. Conversations based upon them may well lead to an almost unlimited amount of sound knowledge derived not from abstract statements but from inferences. Those who find the newer methods, particularly the Project Method, difficult to realize upon under present circumstances because of paucity of material at hand, will undoubtedly welcome Compton's with open arms.

As suggested in the opening sentence of this review, these books, although designed for children, are not childish. There is probably no one living who could not gain much valuable information, to say nothing of genuine pleasure, from going through them. The reviewer can pay no higher tribute than to say that he welcomes his vacation because it brings the opportunity to turn the pages from beginning to end.

THE NEW BOOKS

The Psychology of Industry. By James Drever. New York: E. P. Dutton & Co., 1921. Pp. xii+148. Price $2.50.

Valuable to teachers as well as to engineers.

The Backward Child. A Study of the Psychology and Treatment of Backwardness. A Practical Manual for Teachers and Students. By Barbara Spofford Morgan. Introduction by Elizabeth E. Farrell. New York: G. P. Putnam's Sons, 1914. Pp. xvii+263.

The author is superintendent of ungraded classes in New York City. Her treatment is practical rather than theoretical.

Psychology in Education. New Educator's Library. New York: Isaac Pitman & Sons, 1922. Pp. vii+112. Price 75c.

A section of *The Encyclopedia and Dictionary of Education* by the same publishers—twenty-six articles, with bibliographies.

Deficiencies in Reading Ability. Their Diagnosis and Remedies. By Clarence Truman Gray, A.M., Ph.D. Boston: D. C. Heath & Co., 1922. Pp. xiv+420.

A scientific basis for the treatment of individuals. Comprehensive. Extensive bibliography.

Successful Teaching in Rural Schools. By Marvin S. Pittman, Ph.D. New York: American Book Co., 1922. Pp. 294. Illus.

Presented graphically in a series of letters, hence excellent for teachers' reading circles.

Civic Education. By David Snedden. Yonkers-on-Hudson: World Book Co., 1922. Pp. 333.

A fundamental discussion of the problems of education in citizenship, with suggestive courses.

A Handbook of Mental Tests. A Further Revision and Extension of the Binet-Simon Scale. By F. Kuhlmann. Baltimore: Warwick & York, 1922. Pp. 208.

Revisions were worked out during seven years' experience in the use of the tests in Minnesota.

Herring Revision of the Binet-Simon Tests. Examination Manual: Form A. By John P. Herring. Yonkers-on-Hudson: World Book Co., 1922. Pp. 56. Illus.

A simplification and more graphic presentation of individual tests of intelligence.

Changes in Mental Traits with Age. By Fowler Dell Brooks. New York: Teachers College, 1922. Pp. 86.

A study based upon annual re-tests.

Interest Factors in Primary Reading Material. By Fannie W. Dunn. New York: Teachers College, 1921.

What children like and why.

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